

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE**

FILE P.I. # 0012831

OFFICE Design Policy & Support

Forsyth County

GDOT District 1 - Gainesville

DATE 12/17/2014

SR 20 Operational Improvements - From

SR 400 NB Ramp to Ronald Reagan Boulevard.

FROM  for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED CONCEPT REPORT

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Glenn Bowman, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Hiral Patel, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Kathy Zahul, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Mike Bolden, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Andy Casey, State Roadway Design Engineer
Attn: Justin Lott, Design Group Manager
Brent Cook, District Engineer
David Olson, District Traffic Operations Engineer
Neil Kantner, District Utilities Engineer
Davida White, Project Manager
BOARD MEMBER - 7th Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type: <u>Operational Improvement</u>	P.I. Number: <u>0012831</u>
GDOT District: <u>District 1</u>	County: <u>Forsyth</u>
Federal Route Number: <u>N/A</u>	State Route Number: <u>20</u>
Project Number: <u>N/A</u>	

The left turn bay traffic of the EB approach of SR 20 to Market Pl Blvd/Ronald Reagan Blvd is overflowing and blocking a through lane. An additional left turn bay will be constructed at Lowe's driveway to alleviate traffic. A left turn lane on SR 20 at the SR 400 NB ramp intersection will be converted to a through lane leading into the new turn bay.

Submitted for approval:

<u><i>Jim Kott</i></u>	<u>8/26/14</u>
GDOT Concept/Design Phase Office Head	DATE
<u><i>Albert Shelby</i></u>	<u>8/26/14</u>
State Program Delivery Engineer	DATE
<u><i>Debra Wilk</i></u>	<u>8/26/14</u>
GDOT Project Manager	DATE

Recommendation for approval:

<u><i>HIRAL PATEL*/EKP</i></u>	<u>8/28/14</u>
State Environmental Administrator	DATE
<u><i>KATHY ZAHOR*/EKP</i></u>	<u>9/17/2014</u>
State Traffic Engineer	DATE
<u><i>BEN RABUN*/EKP</i></u>	<u>8/31/2014</u>
State Bridge Engineer	DATE

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

<u><i>CINDY VANDYKE*/EKP</i></u>	<u>9/3/2014</u>
State Transportation Planning Administrator	DATE

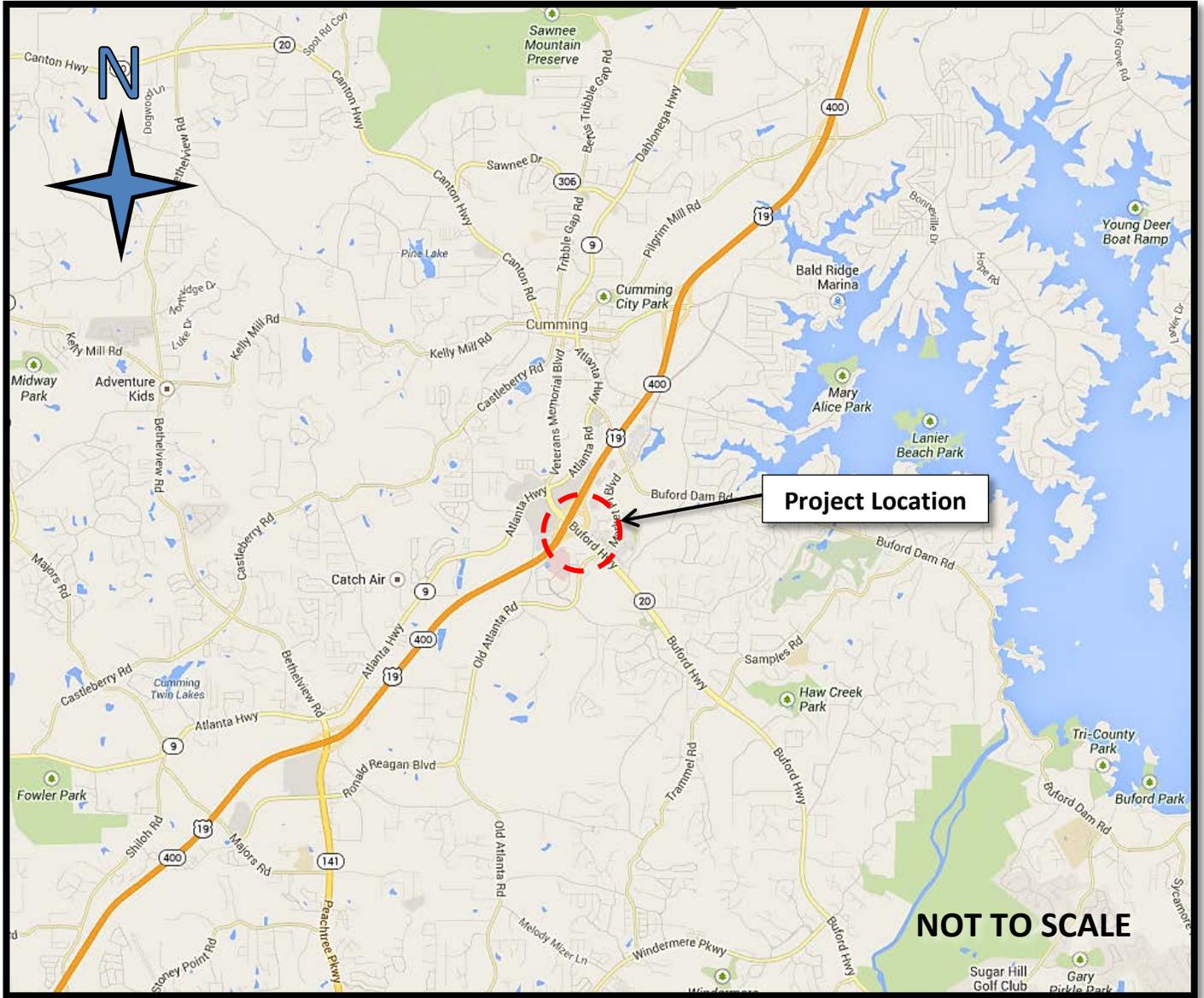
Approval:

Concur: <u><i>Shel Bon</i></u>	<u>12/11/14</u>
GDOT Director of Engineering	DATE

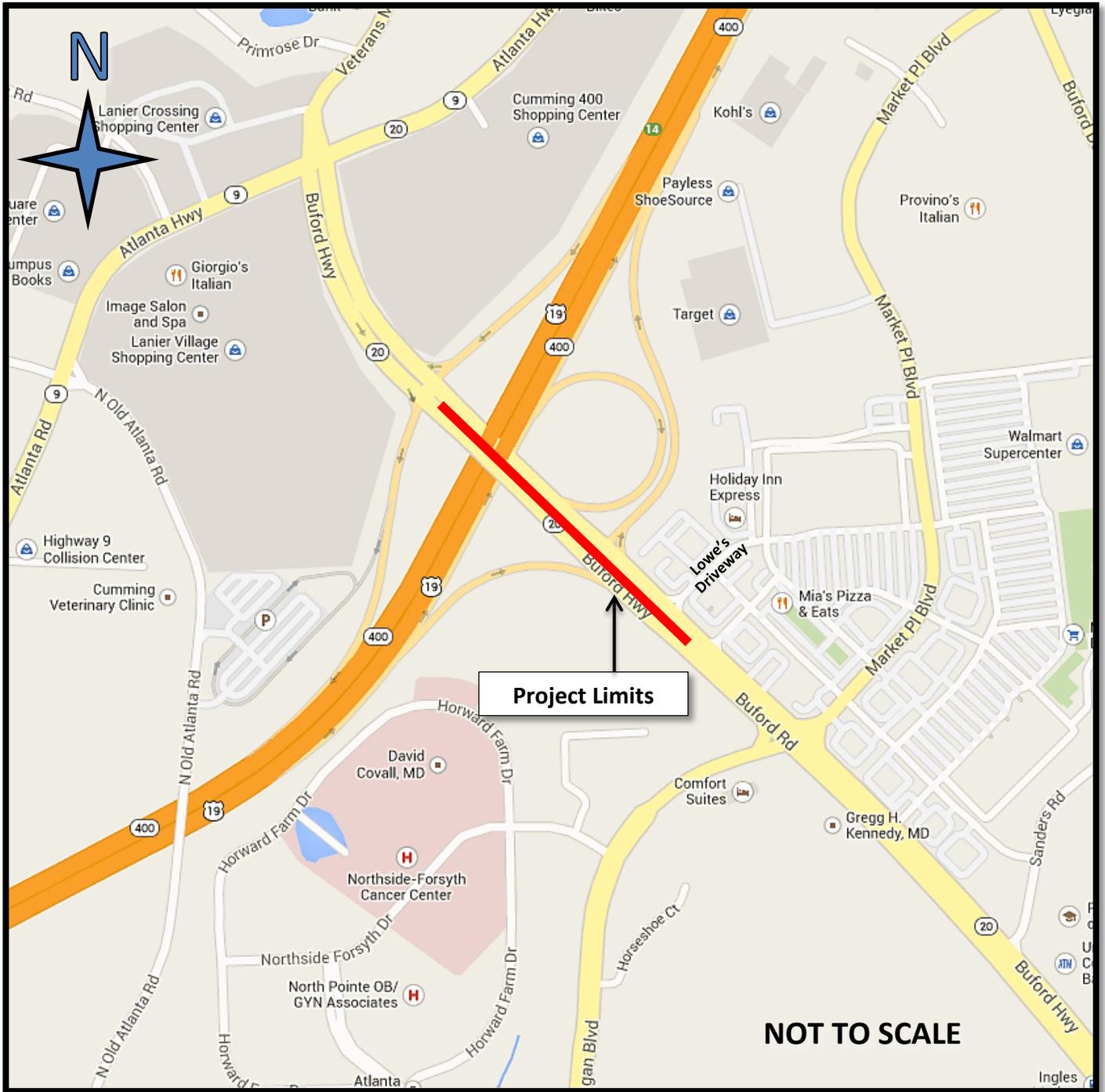
Approve: <u><i>Del M</i></u>	<u>12/12/14</u>
GDOT Chief Engineer	DATE

** - RECOMMENDATION ON FILE*

PROJECT LOCATION



PROJECT LOCATION



PLANNING & BACKGROUND DATA

Project Justification Statement:

State Route (SR) 20/Buford Highway from the GA 400 northbound ramp to Ronald Reagan Blvd/Market Place Blvd in Forsyth County was identified for minor corridor improvements. The proposed project is to be included in the GDOT Operational Improvement Lump Sum Program from the Office of Traffic Operations. This proposed project was presented to and approved by the Operational Improvement Committee, and will be recommended as a QUICK project.

SR 20 is an urban principal arterial that connects the city of Cumming to the city of Sugar Hill. SR 20 is a northwest/southeast variable width grass/concrete median divided roadway with four 12-foot travel lanes. Within the project limits, SR 20 serves the GA 400 northbound ramps, a right in/right out driveway to the Lowe's shopping center, and Ronald Reagan Blvd/Market Place Blvd. The project limits for this project will remain within SR 20 right of way from the GA 400 southbound ramp intersection to the intersection of SR 20/ Ronald Reagan/Market Place Blvd. This project proposes no impacts outside of the existing right of way limits.

GDOT Traffic Operations staff performed an engineering study of the SR 20 corridor from the GA 400 NB ramp to Ronald Reagan Blvd/Market Place Blvd. Field observation and analysis identified that the eastbound dual left turn lanes from SR 20 to Market Place Blvd spillback into the SR 20 eastbound through lanes due to inadequate storage capacity. The study also identified that the dual left turn lanes at the SR 20/GA 400 northbound on-ramp intersection located 1400 feet west of the SR 20/Ronald Reagan Blvd/Market Place Blvd intersection are underutilized. This project proposes to improve corridor operation at this location by installing a left-in/right-in/right-out median opening at the Lowe's Driveway in the Cumming Marketplace shopping center on SR 20. The left-in turn lane will be accommodated by utilizing the existing grass median and converting one of the dual left turn lanes at the intersection of SR 20/GA 400 northbound on-ramp into a through lane on SR 20. An intersection and an approach delay and level of service analysis using traffic forecasted for 2022 concluded that both the AM and PM peak hours improved operationally for both the SR 20/GA 400 northbound on-ramp intersection and the SR20/Ronald Reagan/Market Place Blvd intersection. The intersection delay to the SR 20/Ronald Reagan/Market Place Blvd intersection 2022 AM and PM peak hours would decrease by 8% and 4% respectively, and the approach delay would decrease by 3% and 46% respectively.

Due to the minor project scope, the right-of-way constraints, existing intersection features (existing roadway width and signal operations) and the scope approved by the Operational Improvement Committee, a roundabout was not recommended for this location.

Existing conditions:

SR 20 is a depressed/raised median-divided roadway with four 12-foot travel lanes. Within the project limits, SR 20 serves the GA 400 northbound ramps and a right in/right out driveway to Lowe’s shopping center. From west to east, sidewalks are located on SR 20 eastbound up to the GA 400 northbound ramps and cross over to SR 20 westbound up toward Ronald Reagan Blvd/Market Place Blvd. A drop inlet is located in the center of the median near Lowe’s Driveway.

Other projects in the area:

- 0003682 – Widening project on SR 20 from SR 371 to SR 400
- 0008445 – HOV Widening project on SR 400 from CR 458/McFarland to SR 20
- 722020 – Widening project on SR 400 from Haynes Bridge Rd to SR 20

Description of the proposed project:

The proposed operational improvement project would consist of providing a left-in/right-in/right-out median opening at Lowe’s driveway on SR 20. This concept would also involve converting one of the left turn lanes from SR 20 to GA 400 NB ramp into a through lane. The improvements would serve to alleviate congestion toward Market Place Blvd.

MPO: Atlanta Regional Commission (ARC)

TIP #: N/A

TIA Regional Commission: Georgia Mountains RC

Congressional District(s): 7

Federal Oversight: Exempt State Funded Other

Projected Traffic: AADT

Current Year (2014): 37,140 Open Year (2017): 37,982 Design Year (2037): 44,104

Traffic Projections Performed by: District 1 Design

Functional Classification (Mainline): Urban Principal Arterial

Complete Streets - Bicycle, Pedestrian, and/or Transit Warrants:

Warrants met: None Bicycle Pedestrian Transit

DESIGN AND STRUCTURAL

Major Structures:

Structure ID	Existing	Proposed
117-0008-0	Dual left turn pavement markings on the bridge at SR 20 EB to SR 400 NB ramp	One left turn lane and one through lane pavement markings on the bridge at SR 20 EB to SR 400 NB ramp

Mainline Design Features: SR 20

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	4	4	4
- Lane Width(s)	12 ft	12 ft	12 ft
- Median Width & Type	72 ft Depressed/Raised (includes turn lanes)	20 ft Raised	72 ft Depressed/Raised (includes turn lanes)
- Border Area Width	12 ft	10-16 ft	12 ft
- Outside Shoulder Slope	N/A	N/A	N/A
- Inside Shoulder Width	6 ft (2 ft paved)	6 ft (2 ft paved)	6 ft (2 ft paved)
- Sidewalks	5 ft 6 ft on bridge	5 ft 5.5 ft on bridge	5 ft 6 ft on bridge
- Auxiliary Lanes	SR 400 ramps; left turn bays		Add left turn bay in median
- Bike Lanes	N/A	N/A	N/A
Posted Speed	45 mph		45 mph
Design Speed	45 mph	45 mph	45 mph
Min Horizontal Curve Radius	22,918 ft	5930 ft	22,918 ft
Maximum Superelevation Rate	NC	4%	NC
Maximum Grade	-2.47%	7%	-2.47%
Access Control	Limited	Limited	Limited
Design Vehicle	WB-62	WB-62	WB-62

*According to current GDOT design policy if applicable

Major Interchanges/Intersections:

SR 20 & SR 400

SR 20 & Ronald Reagon Blvd/Market Place Blvd

Lighting required: No Yes

Transportation Management Plan [TMP] Required: No Yes
 If Yes: Project classified as: Non-Significant Significant
 TMP Components Anticipated: TTC TO PI

Will Context Sensitive Solutions procedures be utilized? No Yes

Design Exceptions to FHWA/AASHTO controlling criteria anticipated: N/A

Design Variances to GDOT Standard Criteria anticipated: N/A

UTILITY AND PROPERTY

Temporary State Route Needed: No Yes Undetermined

Railroad Involvement: N/A

Utility Involvements: No impacts

SUE Required: No Yes

Public Interest Determination Policy and Procedure recommended? No Yes

Right-of-Way:

Existing width: 235ft Proposed width: 235ft

Required Right-of-Way anticipated: No Yes Undetermined

Easements anticipated: None Temporary Permanent Utility Driveway

Anticipated number of impacted parcels:	1
Displacements anticipated:	Businesses: 0
	Residences: 0
	Other: 0
Total Displacements:	0

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:

GEPA: NEPA: CE PCE

MS4 Compliance – Is the project located in an MS4 area? No Yes

Environmental Permits, Variances, Commitments, and Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Forest Service/Corps Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. CWA Section 404 Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See below
4. Tennessee Valley Authority Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Buffer Variance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Coastal Zone Management Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. NPDES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. FEMA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Cemetery Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10. Other Permits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Other Commitments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12. Other Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Air Quality:

- Is the project located in a PM 2.5 Non-attainment area? No Yes
- Is the project located in an Ozone Non-attainment area? No Yes
- Is a Carbon Monoxide hotspot analysis required? No Yes

NEPA/GEPA Comments & Information

NEPA/GEPA: To Be Determined – No adverse impacts anticipated

Ecology: To Be Determined – Small drainage in the APE may be affected by the project; 404 permit may be required. T&E survey season is July-November.

History: To Be Determined – No adverse impacts anticipated

Archeology: To Be Determined – No adverse impacts anticipated

Air & Noise: To Be Determined – Carbon Monoxide hotspot analysis is not required because the LOS at the SR 20 & SR 400 signalized intersection in the build year is C or better (it is LOS B) and the SR 20 & Lowe’s Driveway intersection is unsignalized.

Public Involvement: To Be Determined

Major stakeholders: GDOT, Forsyth County, City of Cumming, traveling public

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Project Meetings:

- PTIP Meeting – 11/07/13
- Concept Meeting – 08/11/14

Project Activity	Party Responsible for Performing Task(s)
Concept Development	District 1 Design
Design	District 1 Design
Right-of-Way Acquisition	District 1 ROW – Driveway Easement Only
Utility Relocation	GDOT D1 Coord/Utility Companies Relocate
Letting to Contract	GDOT
Construction Supervision	District 1 Construction
Providing Material Pits	Contractor
Providing Detours	N/A
Environmental Studies, Documents, and Permits	GDOT/Contractor
Environmental Mitigation	GDOT
Construction Inspection & Materials Testing	District 1 Construction

Other coordination to date: None

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By	GDOT	GDOT	GDOT	GDOT	GDOT	
\$ Amount	\$174,306	\$0	\$0	\$265,430.93	\$0	\$439,737
Date of Estimate	11/27/2013			11/18/2014		

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Preferred Alternative: New left-in only median opening into Lowe’s driveway and turn lane extension			
Estimated Property Impacts:	1	Estimated Total Cost:	\$439,737
Estimated ROW Cost:	\$0	Estimated CST Time:	2 mos.
Rationale: This alternative reduces the left turn queue and provides more storage for cars turning left onto Ronald Reagan Blvd/Market Place Blvd. It also reduces the amount of left-turn traffic entering the intersection of SR 20 & Market Place Blvd/Ronald Reagan Blvd.			

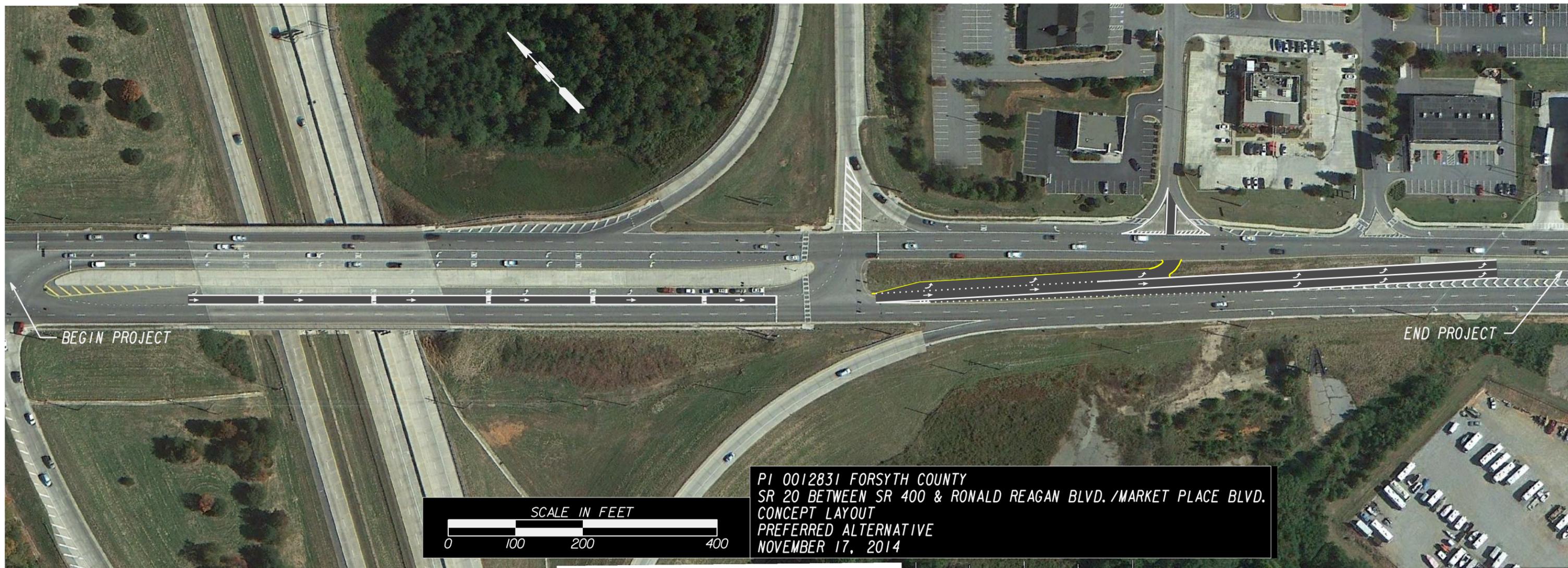
Alternative 2: New left-in only median opening into Lowe’s driveway			
Estimated Property Impacts:	1	Estimated Total Cost:	\$398,728
Estimated ROW Cost:	\$0	Estimated CST Time:	2 mos.
Rationale: This alternative reduces left turn queue as well as the amount of traffic entering the intersection of SR 20 & Market Place Blvd/Ronald Reagan Blvd.			

Alternative 3: Extend dual left-turn bay capacity at SR 20 EB & Market Place Blvd/Ronald Reagan Blvd			
Estimated Property Impacts:	0	Estimated Total Cost:	\$705,629
Estimated ROW Cost:	\$0	Estimated CST Time:	2 mos.
Rationale: This alternative provides more left-turn capacity but does not reduce the amount of traffic entering the intersection.			

No-Build Alternative			
Estimated Property Impacts:	0	Estimated Total Cost:	\$0
Estimated ROW Cost:	\$0	Estimated CST Time:	0 mos.
Rationale: This alternative will have no cost but will not reduce the increasing congestion of the intersection.			

LIST OF ATTACHMENTS/SUPPORTING DATA

1. Concept Layout
2. Typical section
3. Projected Design Traffic Volumes
4. Detailed Cost Estimate
5. Liquid AC Adjustment
6. Utilities Cost Estimate
7. Cost Summary
8. Engineering Study
9. PTIP Meeting Minutes
10. Concept Meeting Minutes

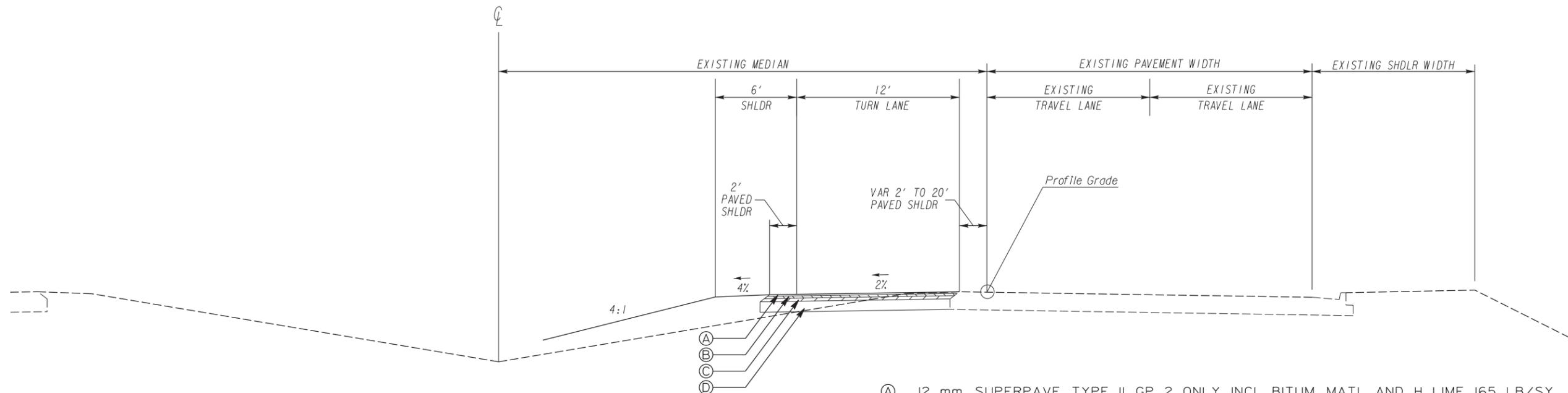


BEGIN PROJECT

END PROJECT



PI 0012831 FORSYTH COUNTY
SR 20 BETWEEN SR 400 & RONALD REAGAN BLVD. / MARKET PLACE BLVD.
CONCEPT LAYOUT
PREFERRED ALTERNATIVE
NOVEMBER 17, 2014



- Ⓐ 12 mm SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL AND H LIME, 165 LB/SY
- Ⓑ 19 mm SUPERPAVE, GP 1 OR II, INCL BITUM MATL AND H LIME, 220 LB/SY
- Ⓒ 25 mm SUPERPAVE, GP 1 OR II, INCL BITUM MATL AND H LIME, 330 LB/SY
- Ⓓ GRADED AGGREGATE BASE COURSE, INCL MATL, 10 IN

SR 20
 FROM SR 400 NB TO LOWE'S DRIVEWAY
 TANGENT SECTION

GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION

NOT TO SCALE

REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: DISTRICT 1 DESIGN
TYPICAL SECTIONS

DRAWING No.
05-01

Project Design Traffic Volumes

PI 0012831, Forsyth County

$$P = C (1 + r)^t$$

P = projected volume

C = current year volume

r = annual rate of increase (.75%)

t = number of years the volume is increased

	C (volume)	r (%)	t (years)	Projected Volume
2014 Traffic Volume	37,140	0.75%	0	37,140
2017 Projected Volume	37,140	0.75%	3	37,982
2037 Projected Volume	37,140	0.75%	23	44,104

DETAILED COST ESTIMATE



Job: 0012831

JOB NUMBER 0012831

FED/STATE PROJECT NUMBER 0012831

SPEC YEAR: 13

DESCRIPTION: SR 20 BETWEEN GA 400 & MARKET PLACE BLVD/RONALD REAGAN BLVD

ITEMS FOR JOB 0012831

0010 - ROADWAY

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0005	150-1000	1.000	LS	\$25,000.00000	TRAFFIC CONTROL - TRAFFIC CTRL	\$25,000.00
0010	210-0100	1.000	LS	\$40,000.00000	GRADING COMPLETE - GRADING COMPLETE	\$40,000.00
0025	310-1101	891.060	TN	\$24.33350	GR AGGR BASE CRS, INCL MATL	\$21,682.61
0020	402-3113	202.660	TN	\$76.67992	RECYL AC 12.5MM SP,GP1/2,BM&HL	\$15,539.95
0035	402-3121	261.380	TN	\$89.94183	RECYL AC 25MM SP,GP1/2,BM&HL	\$23,509.00
0030	402-3190	174.250	TN	\$96.06023	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$16,738.50
0040	413-1000	202.030	GL	\$3.47033	BITUM TACK COAT	\$701.11
0045	432-0206	872.000	SY	\$4.71864	MILL ASPH CONC PVMT/ 1.50 DEP	\$4,114.65
0050	441-0754	45.000	SY	\$59.24541	CONC MEDIAN, 7 1/2 IN	\$2,666.04
SUBTOTAL FOR ROADWAY:						\$149,951.86

0020 - DRAINAGE

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0065	550-1180	75.000	LF	\$42.11468	STM DR PIPE 18,H 1-10	\$3,158.60
0055	668-2100	1.000	EA	\$1,865.09595	DROP INLET, GP 1	\$1,865.10
0060	668-2110	6.000	LF	\$190.46895	DROP INLET, GP 1, ADDL DEPTH	\$1,142.81
SUBTOTAL FOR DRAINAGE:						\$6,166.51

0030 - SIGNING & MARKING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0070	610-9001	3.000	EA	\$110.65558	REM SIGN	\$331.97
0075	647-1000	1.000	LS	\$50,000.00000	TRAF SIGNAL INSTALLATION NO - TRAFFIC SIGNAL INSTALLATION	\$50,000.00
0080	653-0110	6.000	EA	\$73.19220	THERM PVMT MARK, ARROW, TP 1	\$439.15
0085	653-0120	9.000	EA	\$83.18878	THERM PVMT MARK, ARROW, TP 2	\$748.70
0090	653-0210	4.000	EA	\$110.57280	THERM PVMT MARK, WORD , TP 1	\$442.29
0095	653-1501	2400.000	LF	\$0.64267	THERMO SOLID TRAF ST 5 IN, WHI	\$1,542.41
0100	653-1502	430.000	LF	\$0.79673	THERMO SOLID TRAF ST, 5 IN YEL	\$342.59
0105	653-1704	12.000	LF	\$6.19760	THERM SOLID TRAF STRIPE,24,WH	\$74.37
0115	654-1003	16.000	EA	\$5.39030	RAISED PVMT MARKERS TP 3	\$86.24
0185	657-1054	700.000	LF	\$3.42561	PRF PL SD PVMT MKG,5,WH,TP PB	\$2,397.93
0190	657-5003	2.000	EA	\$729.47081	PRF PLASTIC PVMT MKG, WORD TP 1, TP PB	\$1,458.94
0195	657-5016	2.000	EA	\$505.00000	PRF PL PVT MKG,ARW TP1,WH,TPPB	\$1,010.00
SUBTOTAL FOR SIGNING & MARKING:						\$58,874.59

DETAILED COST ESTIMATE



Job: 0012831

0040 - EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0150	163-0232	0.050	AC	\$801.06480	TEMPORARY GRASSING	\$40.05
0120	163-0240	4.000	TN	\$211.30835	MULCH	\$845.23
0125	163-0300	1.000	EA	\$1,307.64364	CONSTRUCTION EXIT	\$1,307.64
0175	163-0527	4.000	EA	\$284.24797	CNST/REM RIP RAP CKDM,STN P RIPRAP/SN BG	\$1,136.99
0170	163-0550	2.000	EA	\$155.85192	CONS & REM INLET SEDIMENT TRAP	\$311.70
0130	165-0010	40.000	LF	\$1.28698	MAINT OF TEMP SILT FENCE, TP A	\$51.48
0180	165-0041	60.000	LF	\$1.81028	MAINT OF CHECK DAMS - ALL TYPES	\$108.62
0135	165-0101	1.000	EA	\$560.52732	MAINT OF CONST EXIT	\$560.53
0140	171-0010	40.000	LF	\$2.31195	TEMPORARY SILT FENCE, TYPE A	\$92.48
0145	700-6910	0.100	AC	\$1,029.06512	PERMANENT GRASSING	\$102.91
0155	700-7000	0.400	TN	\$224.18002	AGRICULTURAL LIME	\$89.67
0160	700-8000	0.040	TN	\$548.55147	FERTILIZER MIXED GRADE	\$21.94
0165	700-8100	6.000	LB	\$3.32579	FERTILIZER NITROGEN CONTENT	\$19.95
SUBTOTAL FOR EROSION CONTROL:						\$4,689.19

TOTALS FOR JOB 0012831

ITEMS COST:	\$219,682.15
COST GROUP COST:	\$0.00
ESTIMATED COST:	\$219,682.15
CONTINGENCY PERCENT:	0.00
ENGINEERING AND INSPECTION:	0.05
ESTIMATED COST WITH CONTINGENCY AND E&I:	\$230,666.26

PROJ. NO. [REDACTED]
P.I. NO. 0012831
DATE 11/20/2014

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Jul-14	\$ 2.860
DIESEL		\$ 3.540
LIQUID AC		\$ 595.00

Link to Fuel and AC Index:

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)				11388.3	\$	11,388.30
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	952.00		
Monthly Asphalt Cement Price month project let (APL)			\$	595.00		
Total Monthly Tonnage of asphalt cement (TMT)				31.9		

ASPHALT	Tons	%AC	AC ton
Leveling	0	5.0%	0
12.5 OGFC	0	5.0%	0
12.5 mm	203	5.0%	10.15
9.5 mm SP	0	5.0%	0
25 mm SP	261	5.0%	13.05
19 mm SP	174	5.0%	8.7
	638		31.9

BITUMINOUS TACK COAT

Price Adjustment (PA)			\$	309.74	\$	309.74
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	952.00		
Monthly Asphalt Cement Price month project let (APL)			\$	595.00		
Total Monthly Tonnage of asphalt cement (TMT)				0.867610386		

Bitum Tack

Gals	gals/ton	tons
202	232.8234	0.86761039

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				0	\$	-
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	952.00		
Monthly Asphalt Cement Price month project let (APL)			\$	595.00		
Total Monthly Tonnage of asphalt cement (TMT)				0		

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.	0	0.20	0	232.8234	0
Double Surf.Trmt.	0	0.44	0	232.8234	0
Triple Surf. Trmt	0	0.71	0	232.8234	0

TOTAL LIQUID AC ADJUSTMENT \$ 11,698.04

Project Cost Estimate Summary

PI 0012831, Forsyth County

Construction:

Construction Cost Estimate	\$ 219,682.15
Engineering and Inspection (5%)	\$ 10,984.11
Contingency (10%)	\$ 23,066.63
Total Liquid AC Adjustment	<u>\$ 11,698.04</u>
Subtotal	\$ 265,430.93

Total Costs:

PE Costs:	\$ 174,306.00
ROW Costs:	\$ -
Utilities:	\$ -
Construction:	\$ 265,430.93
Environmental Mitigation:	<u>\$ -</u>
Total Project Costs:	\$ 439,736.93

Operational Improvement Potential Project

SR 20/Buford Rd at GA 400 and Market Place Blvd/ Ronald Reagan Blvd

Date Presented:
December 2012

GDOT District:	District 1	County:	Forsyth
Project Type:	Intersection Improvement	City:	Cumming

Description of the Problem:

It was observed that the EB left-turn traffic from SR 20/Buford Rd to Market PI Blvd/Ronald Reagan Blvd backs into SR 20/Buford Rd mainline. It was also observed that the dual-left turn lanes at SR 20/Buford Rd and GA 400 NB ramps are underutilized. Therefore it was recommended to convert one of the left-turn lane from SR 20/Buford Rd to GA 400 NB ramps to a through lane and utilize as additional storage for the EB left-turn traffic from SR 20/Buford Rd to Market PI Blvd/Ronald Reagan Blvd.

Proposed Improvement:

Two proposed build alternatives were evaluated:

Alternate 1:

Alternate 1 is to provide a left-in/right-out median opening to Lowe's Driveway on SR 20/Buford Rd. This concept would also consider converting one of the left-turn lanes from SR 20/Buford Rd to GA 400 NB ramps to a through lane. Trips were generated for the existing development in the NW and NE quadrants of Lowe's Driveway based on land use type using ITE Trip Generation Manual (9th Edition) and manually distributed to populate the left-turning traffic into Lowe's Driveway.

Alternate 2:

Alternate 2 is to extend existing EB dual-lefts from SR 20/Buford Rd to Market PI Blvd all the way to the intersection of SR 20/Buford Rd at GA 400 NB Ramps. This concept would also consider converting one of the left-turn lanes from SR 20/Buford Rd to GA 400 NB ramps to a through lane.

Right of Way acquisition required?

None
 Minimal
 Yes, 4+ parcels

Initial Environmental Concerns?
 Yes If yes, describe: _____
 No

Other programmed projects in the area: _____

Traffic Volume	Year	AADT
Existing Conditions	2012	See Attached Sheets for AM/PM Peak Hour Volumes
Open Year		
Design Year		
Pedestrian Activity?		

Anticipated Benefits Table:

(LOS, Delay Reduction, Modeling output, etc.)

Approach Delay and Level of Service – (based on SimTraffic Analysis)

Approach	AM Peak Hour				PM Peak Hour			
	Existing (2012)	No-Build (2022)	Build Alt 1 (2022)	Build Alt 2 (2022)	Existing (2012)	No-Build (2022)	Build Alt 1 (2022)	Build Alt 2 (2022)
EB Approach on SR 20 at GA 400 NB Ramps	1.9 LOS A	19.4 LOS B	16 (-18%) LOS B	12.7 (-35%) LOS B	3.8 LOS A	6.3 LOS A	5.2 (-17%) LOS A	4.3 (-32%) LOS A
EB Approach on SR 20 at Market PI Blvd	57.5 LOS E	88.8 LOS F	91.4 (3%) LOS F	81 (-9%) LOS F	40.1 LOS D	113.6 LOS F	61.9 (-46%) LOS E	89.1 (-22%) LOS F

Anticipated Benefits Table:
 (LOS, Delay Reduction, Modeling output, etc.)

Intersection Delay and Level of Service – (based on SimTraffic Analysis)

Intersection	AM Peak Hour				PM Peak Hour			
	Existing (2012)	No-Build (2022)	Build Alt 1 (2022)	Build Alt 2 (2022)	Existing (2012)	No-Build (2022)	Build Alt 1 (2022)	Build Alt 2 (2022)
EB Approach on SR 20/GA400 NB ramp	3.5 LOS A	12.1 LOS B	10.1 (-17%) LOS B	8.6 (-29%) LOS A	8.6 LOS A	10.1 LOS B	10 (-1%) LOS A	9.5 (-6%) LOS A
EB Approach on SR 20/Market Pl	58.7 LOS E	105.6 LOS F	96.7 (-8%) LOS F	94.2 (-11%) LOS F	65.5 LOS E	138.6 LOS F	133.6 (-4%) LOS F	131.4 (-5%) LOS F

Initial Project Cost Estimate (\$):

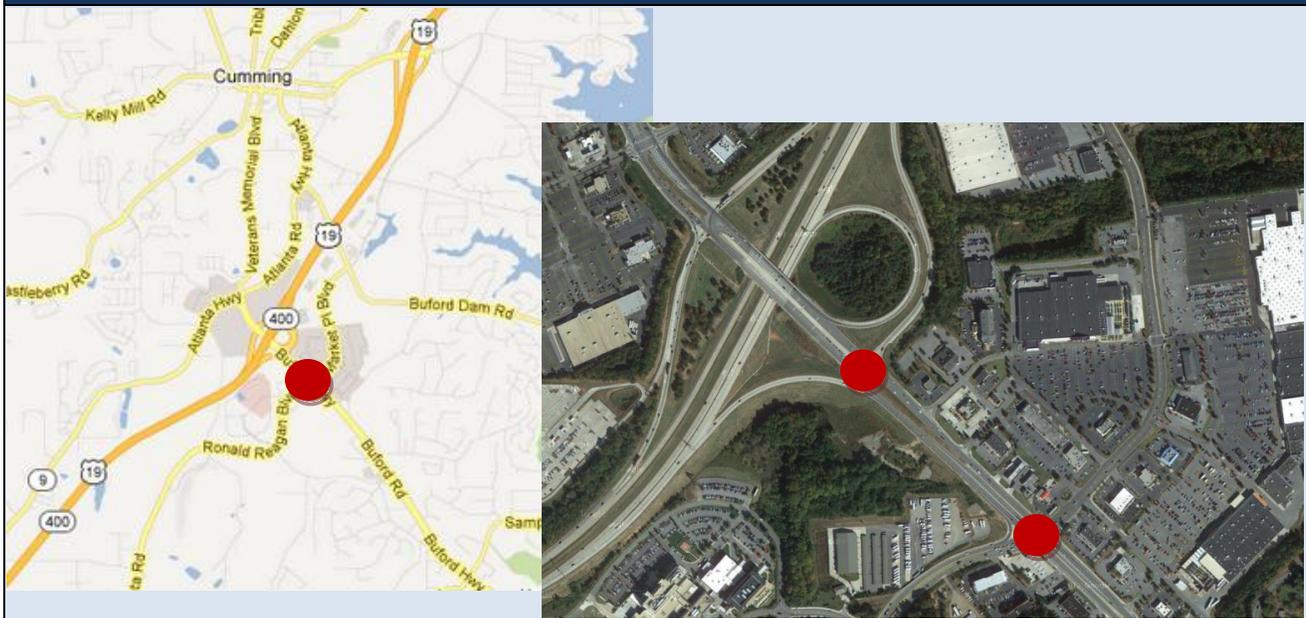
Alternate 1

PE:	\$170,717	ROW:	\$0	CST:	\$569,057
------------	------------------	-------------	------------	-------------	------------------

Alternate 2

PE:	\$162,837	ROW:	\$0	CST:	\$542,791
------------	------------------	-------------	------------	-------------	------------------

Location: (Attach Map, Image or Sketch):



Proposed Improvement: (Attach Map, Image or Sketch):

- See Attached Sheets

GDOT Benefit-Cost Calculator

enter information in green cells

Project Information

ID	PI#0009418
Description	GDOT OI_Task Order 6; FTO # 60007, Alt-1 SR 20/Buford Rd at GA 400 and Market Place Blvd/

Cost Estimate

Date of estimate	2/28/2013
PE cost	\$ 170,717
ROW cost	-
UTILITY cost	-
CST cost (In Opean Year @ 3% Inflation)	\$ 569,057
Total	\$ 739,774

Traffic in 2022

Source of traffic data	Design traffic provided by PE consultant; Analysis in SYNCHRO; Signals added and optimized; network analysis of both 1 hour peak AM and 1 hour peak PM periods
------------------------	--

Without project (nobuild)	
Annual VMT	5,670,750
Annual VHT	853,050
Average speed (mph)	7

With project (build)	
Annual VMT	5,553,750
Annual VHT	855,450
Average speed (mph)	6

Parameters	Default	Override	Used
Analysis year	2035	2022	2022
Discount rate	7.0%		7%
Design life (years)	25	10	10
Fuel price (\$/gallon)	3.22		3.22
Fuel economy (mpg)	18.03		18.03
Value of auto travel (\$/hr)	13.75		13.75
Value of truck travel (\$/hr)	72.65		72.65
Percent trucks	12%	3%	3%
Include GSP benefits	No	No	No

Costs	
Total cost	\$ 739,774
Annualized cost	\$ 105,327
Auto Delay Costs	
Nobuild	\$ 11,377,554
Build	\$ 11,409,564
Auto delay savings	\$ -
Truck Delay Costs	
Nobuild	\$ 1,859,222
Build	\$ 1,864,453
Truck delay savings	\$ -
Fuel Costs	
Nobuild	\$ 1,012,746
Build	\$ 991,851
Fuel cost savings	\$ 20,895
Change in GSP	
Auto delay cost adjustment	NA
Truck delay cost adjustment	NA
Fuel cost adjustment	NA
Total benefit adjustment	NA
Benefits in 2022	\$ 20,895
Benefit-Cost Ratio	0.20

Notes



PROPOSED TRAVEL LANE
PROPOSED SHOULDER
PROPOSED CONCRETE ISLAND
PROPOSED CONCRETE SIDEWALK
PROPOSED CONCRETE C & G



SCALE IN FEET



STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
SR 20/BUFORD ROAD AT
GA 400 & MARKET PLACE
BLVD/RONALD REAGAN BLVD
FIG. No.
6007
ALTERNATE 1

Project Cost Estimation Spreadsheet

Project Identification				SR 20/BUFORD ROAD AT GA 400 & MARKET PLACE BLVD/RONALD REAGAN BLVD	
Description	Access Improvements	Proj. Type	Roadway Widening		
From Limit		District	One		
To Limit					
Notes	ALTERNATE 1				
Project Length	0.36 miles				

Cost Summary		per mile	Yr. of Exp.	Inflated Cost	Total Program Cost
Preliminary Engineering	\$170,717	\$ 474,214	2013	\$ 170,717	\$170,717
Reimbursable Utility	\$0	\$ -	2013	\$ -	\$0
Right-of-Way	\$0	\$ -	2013	\$ -	\$0
Construction	\$569,057	\$ 1,580,714	2013	\$ 569,057	\$569,057
Total	\$739,774	\$ 2,054,928	Total	\$739,774	\$739,774

Construction Costs					
Average Per Lane-Mile Component	Unit Cost	Miles	Add Lanes	Lane-Miles	Cost
Factor					
New Concrete Ramps	\$ 670,560	0.00	0.00	0.00	\$0
Concrete Ramp Widening	\$ 670,560	0.00	0.00	0.00	\$0
Ramp or Surface Street Widening	\$ 463,672	0.20	2.00	0.40	\$185,469
Ramps or Surface Street Overlay	\$ 112,552	0.00	0.00	0.00	\$0
Surface Street Overlay	\$ 112,552	0.12	1.00	0.12	\$13,506
Surface Street Overlay	\$ 112,552	0.00	1.50	0.00	\$0
Surface Street Overlay	\$ 112,552	0.16	1.75	0.28	\$31,515
Paved Shoulders, 10ft, 1 side (mil)	\$ 192,793	0.00	1.00	0.00	\$0
Traffic Control	\$180,000	0.20	1.00		\$36,000
Traffic Control	\$180,000	0.15	1.00		\$27,000
Typical E & S Control Temp&Perr	\$135,000	0.20	1.00		\$27,000
Typical Earthwork	\$500,000	0.20	1.00		\$100,000
Typical Drainage - Urban Section	\$400,000	0.00	1.00		\$0
Curb & Gutter per side (mile)	\$68,640	0.00	1.00		\$0
Typical Drainage - Rural Section	\$200,000	0.20	0.67		\$26,800
Signing & Marking	\$38,000	0.20	1.00		\$7,600
Signing & Marking	\$38,000	0.03	1.50		\$1,710
Signing & Marking	\$38,000	0.16	1.75		\$10,640
Typical Clear & Grub- (120' per mi	\$116,364	0.00	1.00		\$0
Typical Guardrail	\$40,000	0.00	1.00		\$0
20ft. Raised median +C&G (mile)	\$113,084	0.00	1.00		\$0
Sidewalks 5 ft. ea.side (mile)	\$187,733	0.00	1.00		\$0
Sidewalks 5 ft. ea.side (mile)	\$187,733	0.00	1.00		\$0
Subtotal					\$467,240
Additional Components					
Cl. B Conc. Base or pvmt widening	Unit Cost	Length	factor		Cost
Cl. B Conc. Base or pvmt widening	\$15,000	0.10	1.00		\$1,500
Precast barrier Method 3 (ft)	\$40	0			\$0
Subtotal					\$1,500
Individual Components					
Retaining Walls - Under Bridge (SI	Unit Cost	Length (ft)	Width (ft)	Ht (ft)	Cost
Retaining Walls - Under Bridge (SI	\$100	0		0	\$0
Barrier Topped Retaining Wall (SF	\$60	0		3	\$0
Large cross drains (LF)	\$80	0			\$0
Median Concrete (Sq yd)	\$45	413	sy		\$18,585
Traffic Signalhead Upgrade (ea)	\$10,000	1			\$10,000
Replace Interstate Overhead Sign	\$10,000	2			\$20,000
New Interstate Overhead Sign	\$10,000	0			\$0
Interstate Overhead Sign Struct.	\$100,000	0			\$0
Subtotal					\$48,585
Total Construction Cost					\$517,325

77%

Right-of-Way Costs					
Area Type	Unit Cost (acre)	Miles	Width (ft)	Acres	Cost
Urban Residential	\$750,000	0	0	0.00	\$0
Urban Residential	\$750,000	0	0	0.00	\$0
Urban Commercial	\$1,000,000	0	0	0.00	\$0
Urban Commercial	\$1,000,000	0	0	0.00	\$0
Suburban/Rural Residential	\$500,000	0	0	0.00	\$0
Suburban/Rural Residential	\$500,000	0	0	0.00	\$0
Suburban/Rural Commercial	\$750,000	0	0	0.00	\$0
Suburban/Rural Commercial	\$750,000	0	0	0.00	\$0
Displacements					
Residential	\$200,000	Number	factor		
Residential	\$200,000	0	1.00		\$0
Business	\$800,000	0	1.00		\$0
Damages	\$0	0	1.00		\$0
ROW multiplier					1.65
Total Right-of-Way Cost					\$0

0%

Reimbursable Utility Costs	
Utility %	0%
Total Reimbursable Utility Cost	
\$0	
0.00%	

Preliminary Engineering Costs	
PE %	30%
Total Preliminary Engineering Cost	
\$155,197	
23.08%	

Contingency Costs	
Contingency %	10%
Total Contingency Cost	
\$67,252	
Total (PE+Util.+ROW+CST)	
\$672,522	
Grand Total	
\$739,774	

GDOT Benefit-Cost Calculator

enter information in green cells

Project Information

ID	PI#0009418
Description	GDOT OI_Task Order 6; FTO # 60007, Alt-2 SR 20/Buford Rd at GA 400 and Market Place Blvd/

Cost Estimate

Date of estimate	2/28/2013
PE cost	\$ 162,837
ROW cost	-
UTILITY cost	-
CST cost (In Opean Year @ 3% Inflation)	\$ 542,791
Total	\$ 705,628

Traffic in 2022

Source of traffic data	Design traffic provided by PE consultant; Analysis in SYNCHRO; Signals added and optimized; network analysis of both 1 hour peak AM and 1 hour peak PM periods
------------------------	--

Without project (nobuild)	
Annual VMT	5,670,750
Annual VHT	853,050
Average speed (mph)	7

With project (build)	
Annual VMT	5,637,000
Annual VHT	846,825
Average speed (mph)	7

Parameters	Default	Override	Used
Analysis year	2035	2022	2022
Discount rate	7.0%		7%
Design life (years)	25	10	10
Fuel price (\$/gallon)	3.22		3.22
Fuel economy (mpg)	18.03		18.03
Value of auto travel (\$/hr)	13.75		13.75
Value of truck travel (\$/hr)	72.65		72.65
Percent trucks	12%	3%	3%
Include GSP benefits	No	No	No

Costs	
Total cost	\$ 705,628
Annualized cost	\$ 100,466
Auto Delay Costs	
Nobuild	\$ 11,377,554
Build	\$ 11,294,528
Auto delay savings	\$ 83,026
Truck Delay Costs	
Nobuild	\$ 1,859,222
Build	\$ 1,845,655
Truck delay savings	\$ 13,567
Fuel Costs	
Nobuild	\$ 1,012,746
Build	\$ 1,006,719
Fuel cost savings	\$ 6,027
Change in GSP	
Auto delay cost adjustment	NA
Truck delay cost adjustment	NA
Fuel cost adjustment	NA
Total benefit adjustment	NA
Benefits in 2022	\$ 102,621
Benefit-Cost Ratio	1.02

Notes



PROPOSED TRAVEL LANE
 PROPOSED SHOULDER
 PROPOSED CONCRETE ISLAND
 PROPOSED CONCRETE SIDEWALK
 PROPOSED CONCRETE C & G



SCALE IN FEET



STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 SR 20/BUFORD ROAD AT
 GA 400 & MARKET PLACE
 BLVD/RONALD REAGAN BLVD
 PLOT No. **6007**
 ALTERNATE 2

Project Cost Estimation Spreadsheet

Project Identification				SR 20/BUFORD ROAD AT GA 400 & MARKET PLACE BLVD/RONALD REAGAN BLVD			
Description	Access Improvements		Proj. Type	Roadway Widening			
From Limit			District	One			
To Limit							
Notes	ALTERNATE 2						
Project Length	0.42 miles						

Cost Summary		per mile	Yr. of Exp.	Inflated Cost	Total Program Cost
Preliminary Engineering	\$162,837	\$ 387,708	2013	\$ 162,837	\$162,837
Reimbursable Utility	\$0	\$ -	2013	\$ -	\$0
Right-of-Way	\$0	\$ -	2013	\$ -	\$0
Construction	\$542,791	\$ 1,292,361	2013	\$ 542,791	\$542,791
Total	\$705,629	\$ 1,680,069	Total	\$705,629	\$705,629

Construction Costs						
Average Per Lane-Mile Component	Unit Cost	Miles	Add Lanes Factor	Lane-Miles	Cost	
New Concrete Ramps	\$ 670,560	0.00	0.00	0.00	\$0	
Concrete Ramp Widening	\$ 670,560	0.00	0.00	0.00	\$0	
Ramp or Surface Street Widening	\$ 463,672	0.16	1.35	0.22	\$100,153	
Ramps or Surface Street Overlay	\$ 112,552	0.00	2.00	0.00	\$0	
Surface Street Overlay	\$ 112,552	0.25	2.00	0.50	\$56,276	
Surface Street Overlay	\$ 112,552	0.25	1.00	0.25	\$28,138	
Surface Street Overlay	\$ 112,552	0.09	1.35	0.12	\$13,675	
Surface Street Overlay	\$ 112,552	0.16	1.75	0.28	\$31,515	
Paved Shoulders, 10ft, 1 side (mil)	\$ 192,793	0.00	1.00	0.00	\$0	
Traffic Control	\$180,000	0.15	1.50		\$40,500	
Traffic Control	\$180,000	0.15	1.00		\$27,000	
Typical E & S Control Temp&Perr	\$135,000	0.15	1.00		\$20,250	
Typical Earthwork	\$500,000	0.15	1.00		\$75,000	
Typical Drainage - Urban Section	\$400,000	0.00	1.00		\$0	
Curb & Gutter per side (mile)	\$68,640	0.00	1.00		\$0	
Typical Drainage - Rural Section	\$200,000	0.15	0.67		\$20,100	
Signing & Marking	\$38,000	0.28	2.00		\$21,280	
Signing & Marking	\$38,000	0.25	1.00		\$9,500	
Signing & Marking	\$38,000	0.09	1.50		\$5,130	
Signing & Marking	\$38,000	0.16	1.75		\$10,640	
Typical Clear & Grub- (120' per mi	\$116,364	0.00	1.00		\$0	
Typical Guardrail	\$40,000	0.00	1.00		\$0	
20ft. Raised median +C&G (mile)	\$113,084	0.00	1.00		\$0	
Sidewalks 5 ft. ea.side (mile)	\$187,733	0.00	1.00		\$0	
Sidewalks 5 ft. ea.side (mile)	\$187,733	0.00	1.00		\$0	
Subtotal					\$459,157	
Additional Components						
	Unit Cost	Length	factor		Cost	
Cl. B Conc. Base or pvmnt widening	\$15,000	0.10	1.00		\$1,500	
Precast barrier Method 3 (ft)	\$40	0			\$0	
Subtotal					\$1,500	
Individual Components						
	Unit Cost	Length (ft)	Width (ft)	Ht (ft)	Cost	
Retaining Walls - Under Bridge (SI	\$100	0		0	\$0	
Barrier Topped Retaining Wall (SF	\$60	0		3	\$0	
Large cross drains (LF)	\$80	0			\$0	
Median Concrete (Sq yd)	\$45	62 sy			\$2,790	
Traffic Signalhead Upgrade (ea)	\$10,000	1			\$10,000	
Replace Interstate Overhead Sign	\$10,000	2			\$20,000	
New Interstate Overhead Sign	\$10,000	0			\$0	
Interstate Overhead Sign Struct.	\$100,000	0			\$0	
Subtotal					\$32,790	
Total Construction Cost					\$493,447	

77%

Right-of-Way Costs						
Area Type	Unit Cost (acre)	Miles	Width (ft)	Acres	Cost	
Urban Residential	\$750,000	0	0	0.00	\$0	
	\$750,000	0	0	0.00	\$0	
Urban Commercial	\$1,000,000	0	0	0.00	\$0	
	\$1,000,000	0	0	0.00	\$0	
Suburban/Rural Residential	\$500,000	0	0	0.00	\$0	
	\$500,000	0	0	0.00	\$0	
Suburban/Rural Commercial	\$750,000	0	0	0.00	\$0	
	\$750,000	0	0	0.00	\$0	
Displacements						
		Number	factor			
Residential	\$200,000	0	1.00		\$0	
Business	\$800,000	0	1.00		\$0	
Damages	\$0	0	1.00		\$0	
ROW multiplier					1.65	
Total Right-of-Way Cost					\$0	

0%

Reimbursable Utility Costs		
Utility %	0%	\$ -
Total Reimbursable Utility Cost		\$0

0.00%

Preliminary Engineering Costs		
PE %	30%	Total Preliminary Engineering Cost \$148,034

23.08%

Contingency Costs		
Contingency %	10%	Total Contingency Cost \$64,148
Total (PE+Util.+ROW+CST)		\$641,481
Grand Total		\$705,629

All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #1 GA400NBRamps@SR20AM

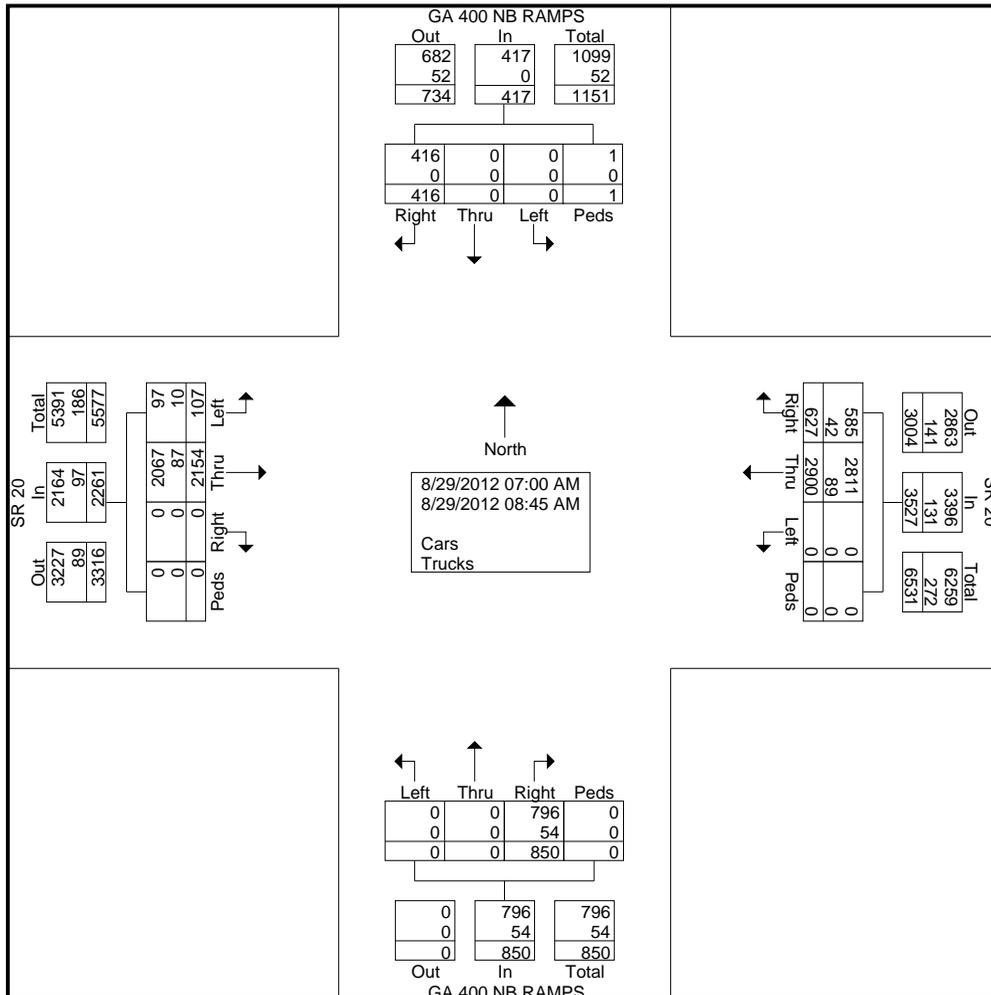
Site Code : 00000000

Start Date : 8/29/2012

Page No : 1

Groups Printed- Cars - Trucks

Start Time	GA 400 NB RAMPS Southbound					SR 20 Westbound					GA 400 NB RAMPS Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	28	0	28	0	320	73	0	393	0	0	89	0	89	6	235	0	0	241	751
07:15 AM	0	0	36	0	36	0	352	77	0	429	0	0	90	0	90	10	262	0	0	272	827
07:30 AM	0	0	46	0	46	0	391	72	0	463	0	0	89	0	89	24	267	0	0	291	889
07:45 AM	0	0	56	1	57	0	380	77	0	457	0	0	125	0	125	13	302	0	0	315	954
Total	0	0	166	1	167	0	1443	299	0	1742	0	0	393	0	393	53	1066	0	0	1119	3421
08:00 AM	0	0	68	0	68	0	364	86	0	450	0	0	115	0	115	12	293	0	0	305	938
08:15 AM	0	0	58	0	58	0	348	67	0	415	0	0	125	0	125	17	287	0	0	304	902
08:30 AM	0	0	48	0	48	0	382	80	0	462	0	0	114	0	114	15	250	0	0	265	889
08:45 AM	0	0	76	0	76	0	363	95	0	458	0	0	103	0	103	10	258	0	0	268	905
Total	0	0	250	0	250	0	1457	328	0	1785	0	0	457	0	457	54	1088	0	0	1142	3634
Grand Total	0	0	416	1	417	0	2900	627	0	3527	0	0	850	0	850	107	2154	0	0	2261	7055
Apprch %	0	0	99.8	0.2		0	82.2	17.8	0		0	0	100	0		4.7	95.3	0	0		
Total %	0	0	5.9	0	5.9	0	41.1	8.9	0	50	0	0	12	0	12	1.5	30.5	0	0	32	
Cars	0	0	416	1	417	0	2811	585	0	3396	0	0	796	0	796	97	2067	0	0	2164	6773
% Cars	0	0	100	100	100	0	96.9	93.3	0	96.3	0	0	93.6	0	93.6	90.7	96	0	0	95.7	96
Trucks	0	0	0	0	0	0	89	42	0	131	0	0	54	0	54	10	87	0	0	97	282
% Trucks	0	0	0	0	0	0	3.1	6.7	0	3.7	0	0	6.4	0	6.4	9.3	4	0	0	4.3	4



All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

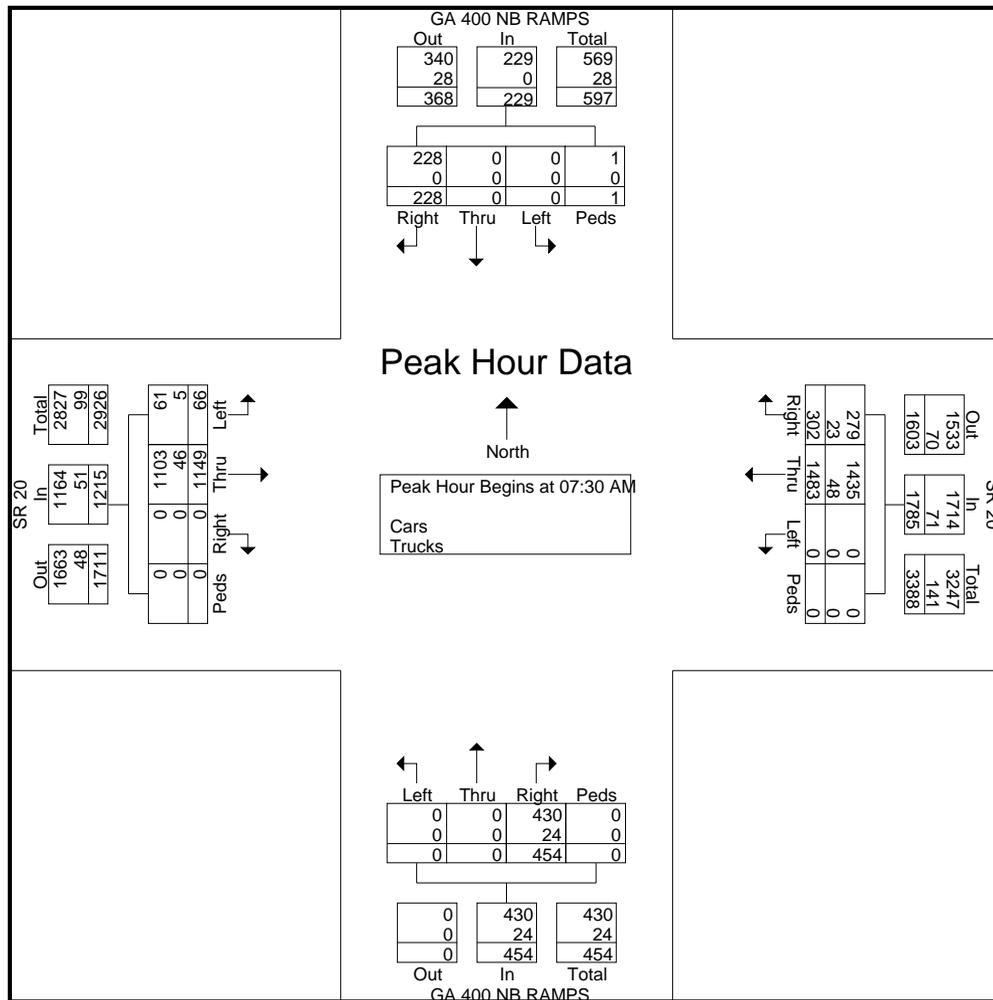
File Name : #1 GA400NBRamps@SR20AM

Site Code : 00000000

Start Date : 8/29/2012

Page No : 2

Start Time	GA 400 NB RAMPS Southbound					SR 20 Westbound					GA 400 NB RAMPS Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	46	0	46	0	391	72	0	463	0	0	89	0	89	24	267	0	0	291	889
07:45 AM	0	0	56	1	57	0	380	77	0	457	0	0	125	0	125	13	302	0	0	315	954
08:00 AM	0	0	68	0	68	0	364	86	0	450	0	0	115	0	115	12	293	0	0	305	938
08:15 AM	0	0	58	0	58	0	348	67	0	415	0	0	125	0	125	17	287	0	0	304	902
Total Volume	0	0	228	1	229	0	1483	302	0	1785	0	0	454	0	454	66	1149	0	0	1215	3683
% App. Total	0	0	99.6	0.4		0	83.1	16.9	0		0	0	100	0		5.4	94.6	0	0		
PHF	.000	.000	.838	.250	.842	.000	.948	.878	.000	.964	.000	.000	.908	.000	.908	.688	.951	.000	.000	.964	.965
Cars	0	0	228	1	229	0	1435									1103					
% Cars	0	0	100	100	100	0	96.8	92.4	0	96.0	0	0	94.7	0	94.7	92.4	96.0	0	0	95.8	96.0
Trucks	0	0	0	0	0	0	48	23	0	71	0	0	24	0	24	5	46	0	0	51	146
% Trucks	0	0	0	0	0	0	3.2	7.6	0	4.0	0	0	5.3	0	5.3	7.6	4.0	0	0	4.2	4.0



All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #1 GA400NBRamps@SR20PM

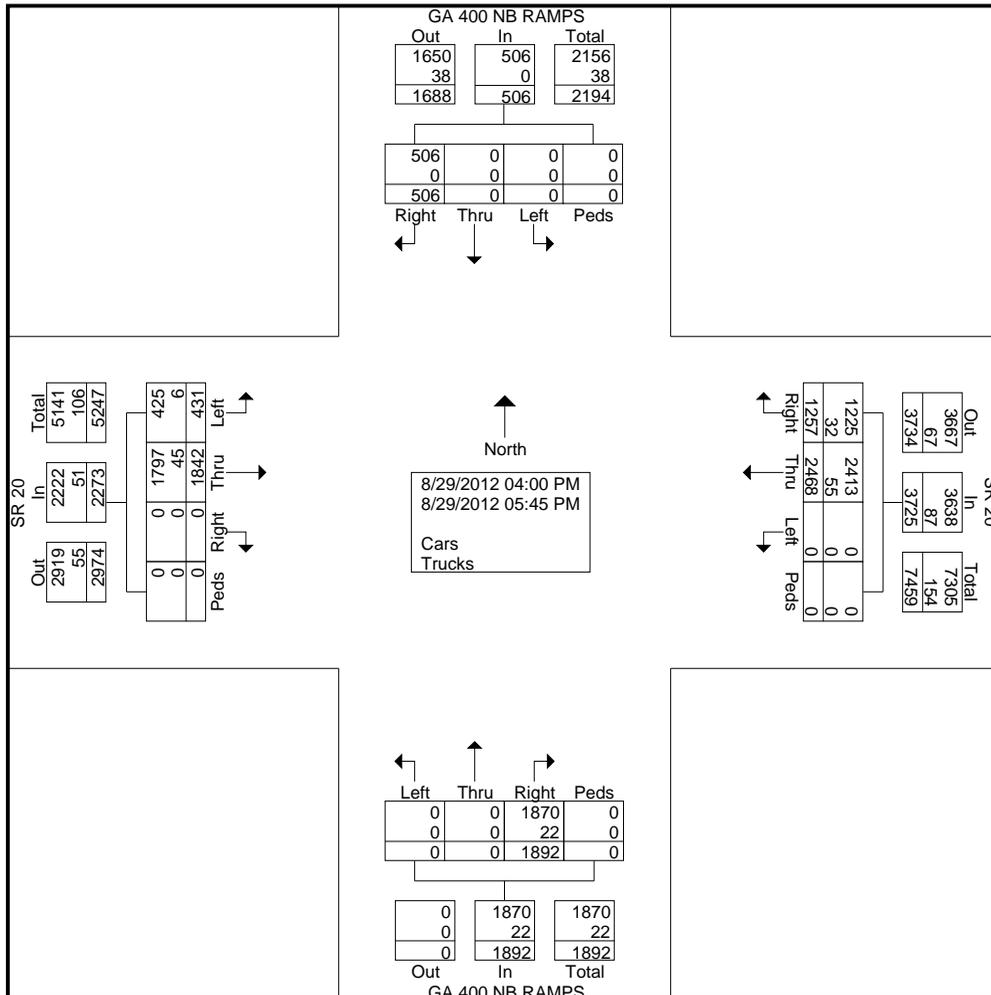
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Start Date : 8/29/2012

Page No : 1

Groups Printed- Cars - Trucks

Start Time	GA 400 NB RAMPS Southbound					SR 20 Westbound				GA 400 NB RAMPS Northbound					SR 20 Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds		App. Total
04:00 PM	0	0	76	0	76	0	300	142	0	442	0	0	257	0	257	63	226	0	0	289	1064
04:15 PM	0	0	56	0	56	0	283	139	0	422	0	0	254	0	254	45	232	0	0	277	1009
04:30 PM	0	0	67	0	67	0	309	157	0	466	0	0	239	0	239	50	217	0	0	267	1039
04:45 PM	0	0	74	0	74	0	343	175	0	518	0	0	215	0	215	48	213	0	0	261	1068
Total	0	0	273	0	273	0	1235	613	0	1848	0	0	965	0	965	206	888	0	0	1094	4180
05:00 PM	0	0	58	0	58	0	301	166	0	467	0	0	235	0	235	62	256	0	0	318	1078
05:15 PM	0	0	42	0	42	0	323	165	0	488	0	0	219	0	219	77	253	0	0	330	1079
05:30 PM	0	0	68	0	68	0	306	144	0	450	0	0	229	0	229	43	223	0	0	266	1013
05:45 PM	0	0	65	0	65	0	303	169	0	472	0	0	244	0	244	43	222	0	0	265	1046
Total	0	0	233	0	233	0	1233	644	0	1877	0	0	927	0	927	225	954	0	0	1179	4216
Grand Total	0	0	506	0	506	0	2468	1257	0	3725	0	0	1892	0	1892	431	1842	0	0	2273	8396
Apprch %	0	0	100	0		0	66.3	33.7	0		0	0	100	0		19	81	0	0		
Total %	0	0	6	0	6	0	29.4	15	0	44.4	0	0	22.5	0	22.5	5.1	21.9	0	0	27.1	
Cars	0	0	506	0	506	0	2413	1225	0	3638	0	0	1870	0	1870	425	1797	0	0	2222	8236
% Cars	0	0	100	0	100	0	97.8	97.5	0	97.7	0	0	98.8	0	98.8	98.6	97.6	0	0	97.8	98.1
Trucks	0	0	0	0	0	0	55	32	0	87	0	0	22	0	22	6	45	0	0	51	160
% Trucks	0	0	0	0	0	0	2.2	2.5	0	2.3	0	0	1.2	0	1.2	1.4	2.4	0	0	2.2	1.9



All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

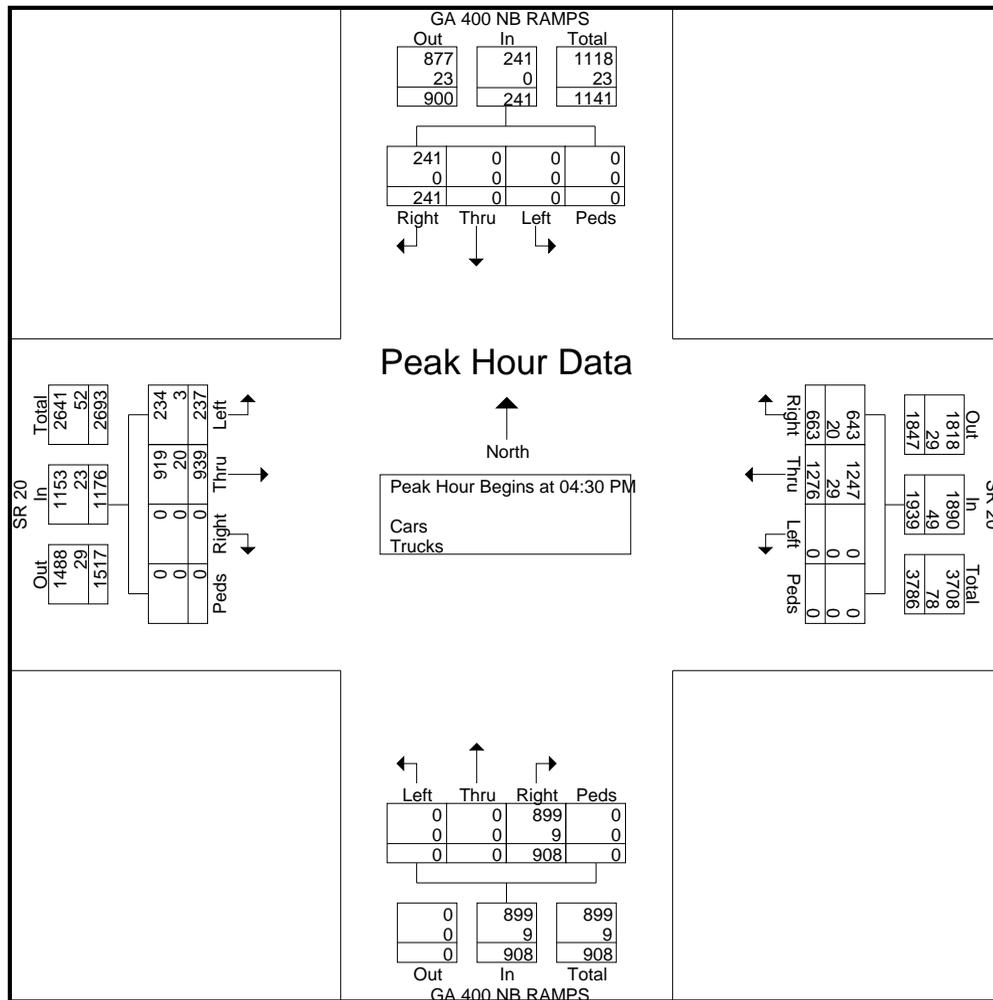
File Name : #1 GA400NBRamps@SR20PM

Site Code : 00000000

Start Date : 8/29/2012

Page No : 2

Start Time	GA 400 NB RAMPS Southbound					SR 20 Westbound					GA 400 NB RAMPS Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	67	0	67	0	309	157	0	466	0	0	239	0	239	50	217	0	0	267	1039
04:45 PM	0	0	74	0	74	0	343	175	0	518	0	0	215	0	215	48	213	0	0	261	1068
05:00 PM	0	0	58	0	58	0	301	166	0	467	0	0	235	0	235	62	256	0	0	318	1078
05:15 PM	0	0	42	0	42	0	323	165	0	488	0	0	219	0	219	77	253	0	0	330	1079
Total Volume	0	0	241	0	241	0	1276	663	0	1939	0	0	908	0	908	237	939	0	0	1176	4264
% App. Total	0	0	100	0		0	65.8	34.2	0		0	0	100	0		20.2	79.8	0	0		
PHF	.000	.000	.814	.000	.814	.000	.930	.947	.000	.936	.000	.000	.950	.000	.950	.769	.917	.000	.000	.891	.988
Cars	0	0	241	0	241	0	1247														
% Cars	0	0	100	0	100	0	97.7	97.0	0	97.5	0	0	99.0	0	99.0	98.7	97.9	0	0	98.0	98.1
Trucks	0	0	0	0	0	0	29	20	0	49	0	0	9	0	9	3	20	0	0	23	81
% Trucks	0	0	0	0	0	0	2.3	3.0	0	2.5	0	0	1.0	0	1.0	1.3	2.1	0	0	2.0	1.9



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1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #3 RTinRTout@SR20AM

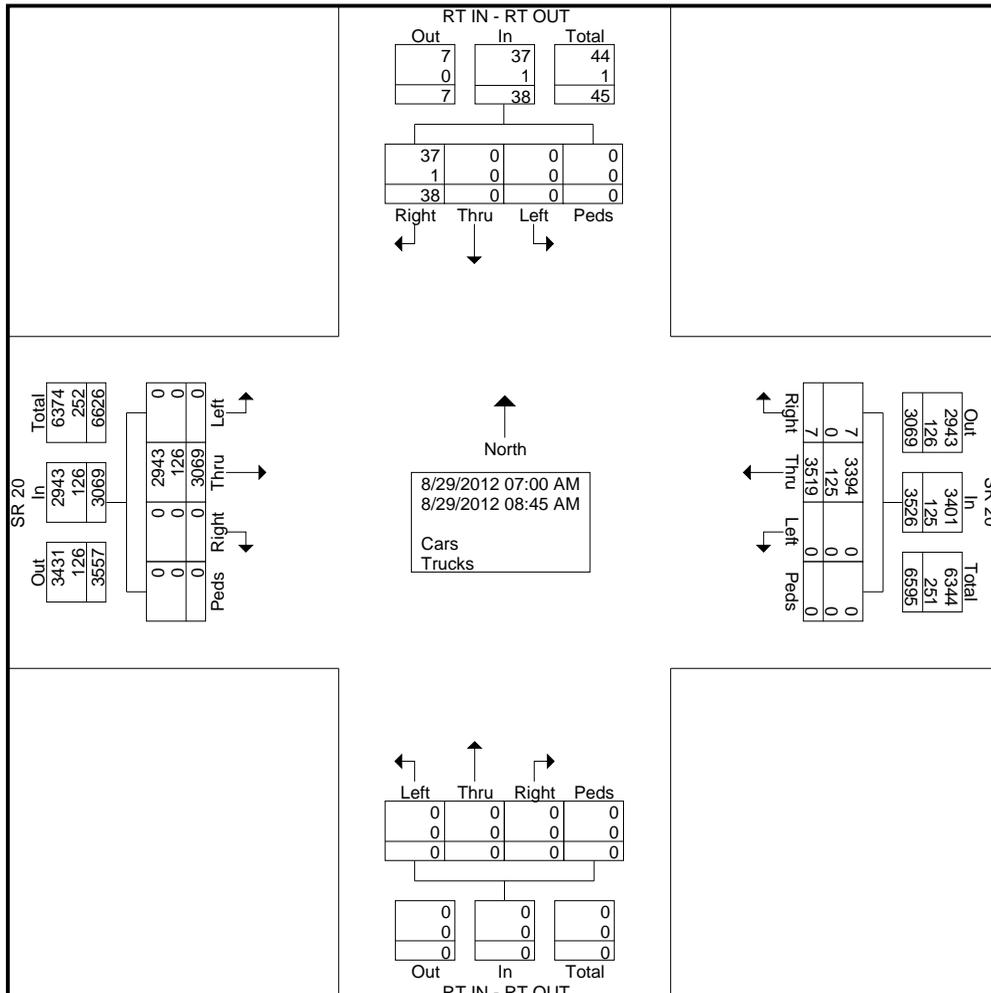
Site Code : 00000000

Start Date : 8/29/2012

Page No : 1

Groups Printed- Cars - Trucks

Start Time	RT IN - RT OUT Southbound					SR 20 Westbound					RT IN - RT OUT Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	3	0	3	0	397	0	0	397	0	0	0	0	0	0	329	0	0	329	729
07:15 AM	0	0	4	0	4	0	425	0	0	425	0	0	0	0	0	0	357	0	0	357	786
07:30 AM	0	0	5	0	5	0	475	1	0	476	0	0	0	0	0	0	375	0	0	375	856
07:45 AM	0	0	4	0	4	0	457	1	0	458	0	0	0	0	0	0	437	0	0	437	899
Total	0	0	16	0	16	0	1754	2	0	1756	0	0	0	0	0	0	1498	0	0	1498	3270
08:00 AM	0	0	5	0	5	0	457	0	0	457	0	0	0	0	0	0	412	0	0	412	874
08:15 AM	0	0	4	0	4	0	404	1	0	405	0	0	0	0	0	0	418	0	0	418	827
08:30 AM	0	0	5	0	5	0	463	1	0	464	0	0	0	0	0	0	368	0	0	368	837
08:45 AM	0	0	8	0	8	0	441	3	0	444	0	0	0	0	0	0	373	0	0	373	825
Total	0	0	22	0	22	0	1765	5	0	1770	0	0	0	0	0	0	1571	0	0	1571	3363
Grand Total	0	0	38	0	38	0	3519	7	0	3526	0	0	0	0	0	0	3069	0	0	3069	6633
Apprch %	0	0	100	0		0	99.8	0.2	0		0	0	0	0		0	100	0	0		
Total %	0	0	0.6	0	0.6	0	53.1	0.1	0	53.2	0	0	0	0	0	0	46.3	0	0	46.3	
Cars	0	0	37	0	37	0	3394	7	0	3401	0	0	0	0	0	0	2943	0	0	2943	6381
% Cars	0	0	97.4	0	97.4	0	96.4	100	0	96.5	0	0	0	0	0	0	95.9	0	0	95.9	96.2
Trucks	0	0	1	0	1	0	125	0	0	125	0	0	0	0	0	0	126	0	0	126	252
% Trucks	0	0	2.6	0	2.6	0	3.6	0	0	3.5	0	0	0	0	0	0	4.1	0	0	4.1	3.8



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1336 Farmer Road
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404-374-1283

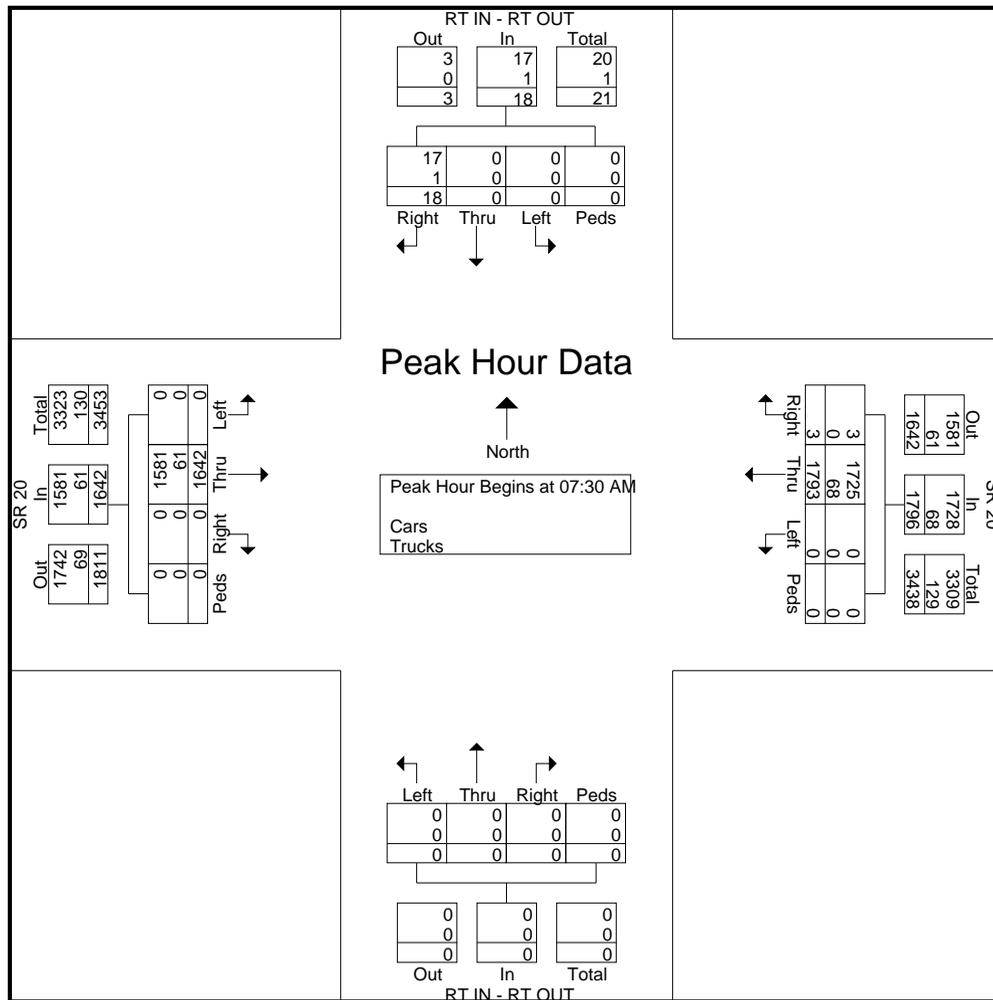
File Name : #3 RTinRTout@SR20AM

Site Code : 00000000

Start Date : 8/29/2012

Page No : 2

Start Time	RT IN - RT OUT Southbound					SR 20 Westbound					RT IN - RT OUT Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	5	0	5	0	475	1	0	476	0	0	0	0	0	0	375	0	0	375	856
07:45 AM	0	0	4	0	4	0	457	1	0	458	0	0	0	0	0	0	437	0	0	437	899
08:00 AM	0	0	5	0	5	0	457	0	0	457	0	0	0	0	0	0	412	0	0	412	874
08:15 AM	0	0	4	0	4	0	404	1	0	405	0	0	0	0	0	0	418	0	0	418	827
Total Volume	0	0	18	0	18	0	1793	3	0	1796	0	0	0	0	0	0	1642	0	0	1642	3456
% App. Total	0	0	100	0		0	99.8	0.2	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.900	.000	.900	.000	.944	.750	.000	.943	.000	.000	.000	.000	.000	.000	.939	.000	.000	.939	.961
Cars	0	0	17	0	17	0	1725										1581				
% Cars	0	0	94.4	0	94.4	0	96.2	100	0	96.2	0	0	0	0	0	0	96.3	0	0	96.3	96.2
Trucks	0	0	1	0	1	0	68	0	0	68	0	0	0	0	0	0	61	0	0	61	130
% Trucks	0	0	5.6	0	5.6	0	3.8	0	0	3.8	0	0	0	0	0	0	3.7	0	0	3.7	3.8



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1336 Farmer Road
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File Name : #3 RTinRTout@SR20PM

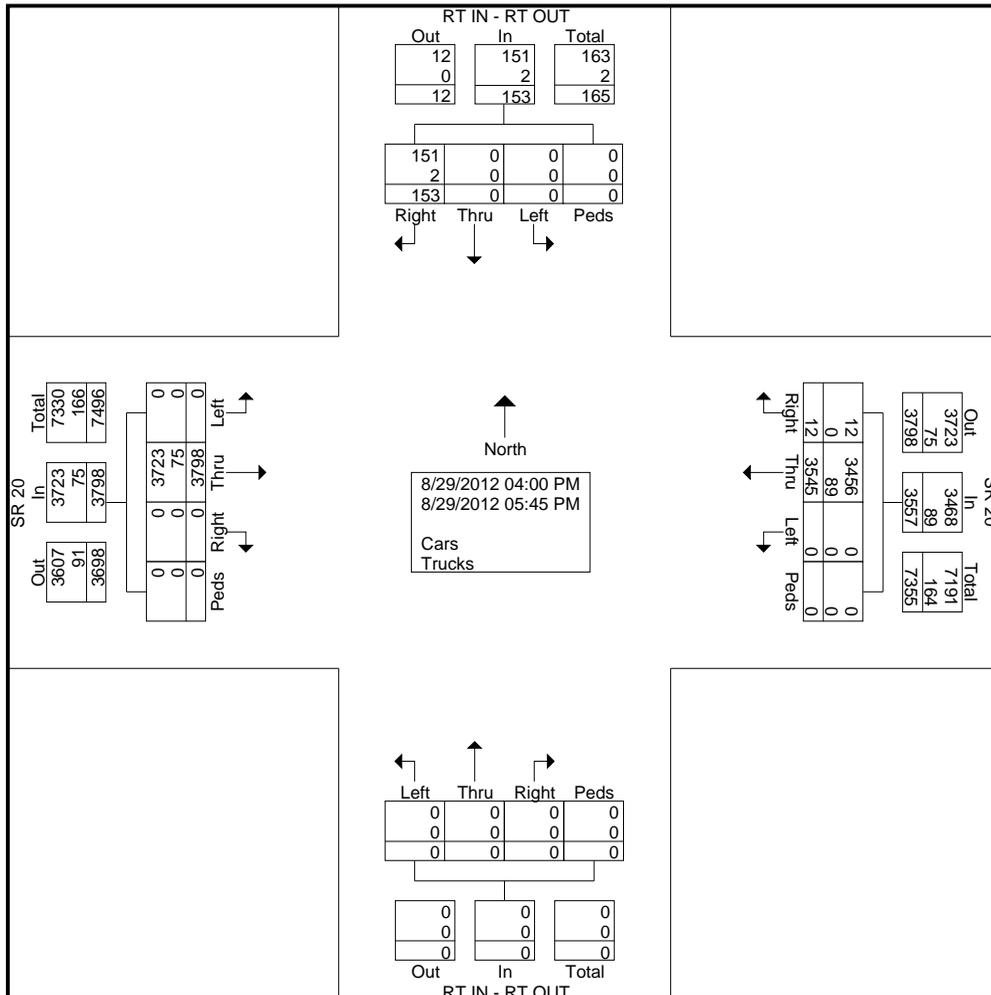
Site Code : 00000000

Start Date : 8/29/2012

Page No : 1

Groups Printed- Cars - Trucks

Start Time	RT IN - RT OUT Southbound					SR 20 Westbound					RT IN - RT OUT Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	0	0	15	0	15	0	435	1	0	436	0	0	0	0	0	0	501	0	0	501	952
04:15 PM	0	0	18	0	18	0	404	2	0	406	0	0	0	0	0	0	497	0	0	497	921
04:30 PM	0	0	20	0	20	0	452	4	0	456	0	0	0	0	0	0	473	0	0	473	949
04:45 PM	0	0	24	0	24	0	489	1	0	490	0	0	0	0	0	0	447	0	0	447	961
Total	0	0	77	0	77	0	1780	8	0	1788	0	0	0	0	0	0	1918	0	0	1918	3783
05:00 PM	0	0	17	0	17	0	441	2	0	443	0	0	0	0	0	0	485	0	0	485	945
05:15 PM	0	0	23	0	23	0	447	0	0	447	0	0	0	0	0	0	474	0	0	474	944
05:30 PM	0	0	17	0	17	0	436	0	0	436	0	0	0	0	0	0	447	0	0	447	900
05:45 PM	0	0	19	0	19	0	441	2	0	443	0	0	0	0	0	0	474	0	0	474	936
Total	0	0	76	0	76	0	1765	4	0	1769	0	0	0	0	0	0	1880	0	0	1880	3725
Grand Total	0	0	153	0	153	0	3545	12	0	3557	0	0	0	0	0	0	3798	0	0	3798	7508
Apprch %	0	0	100	0		0	99.7	0.3	0		0	0	0	0		0	100	0	0		
Total %	0	0	2	0	2	0	47.2	0.2	0	47.4	0	0	0	0	0	0	50.6	0	0	50.6	
Cars	0	0	151	0	151	0	3456	12	0	3468	0	0	0	0	0	0	3723	0	0	3723	7342
% Cars	0	0	98.7	0	98.7	0	97.5	100	0	97.5	0	0	0	0	0	0	98	0	0	98	97.8
Trucks	0	0	2	0	2	0	89	0	0	89	0	0	0	0	0	0	75	0	0	75	166
% Trucks	0	0	1.3	0	1.3	0	2.5	0	0	2.5	0	0	0	0	0	0	2	0	0	2	2.2



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1336 Farmer Road
Conyers, Ga 30012
404-374-1283

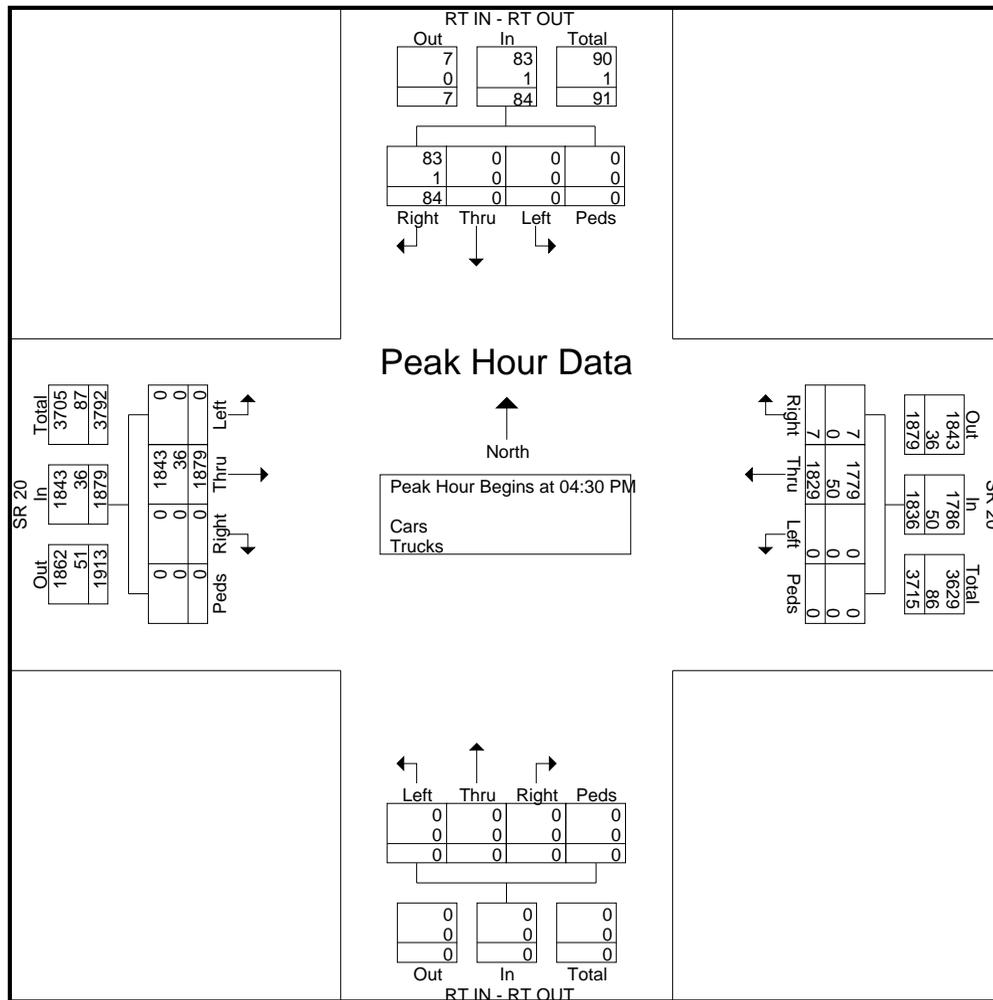
File Name : #3 RTinRTout@SR20PM

Site Code : 00000000

Start Date : 8/29/2012

Page No : 2

Start Time	RT IN - RT OUT Southbound					SR 20 Westbound					RT IN - RT OUT Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	20	0	20	0	452	4	0	456	0	0	0	0	0	0	473	0	0	473	949
04:45 PM	0	0	24	0	24	0	489	1	0	490	0	0	0	0	0	0	447	0	0	447	961
05:00 PM	0	0	17	0	17	0	441	2	0	443	0	0	0	0	0	0	485	0	0	485	945
05:15 PM	0	0	23	0	23	0	447	0	0	447	0	0	0	0	0	0	474	0	0	474	944
Total Volume	0	0	84	0	84	0	1829	7	0	1836	0	0	0	0	0	0	1879	0	0	1879	3799
% App. Total	0	0	100	0		0	99.6	0.4	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.875	.000	.875	.000	.935	.438	.000	.937	.000	.000	.000	.000	.000	.000	.969	.000	.000	.969	.988
Cars	0	0	83	0	83	0	1779										1843				
% Cars	0	0	98.8	0	98.8	0	97.3	100	0	97.3	0	0	0	0	0	0	98.1	0	0	98.1	97.7
Trucks	0	0	1	0	1	0	50	0	0	50	0	0	0	0	0	0	36	0	0	36	87
% Trucks	0	0	1.2	0	1.2	0	2.7	0	0	2.7	0	0	0	0	0	0	1.9	0	0	1.9	2.3



All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #2 ForsythDr@SR20AM

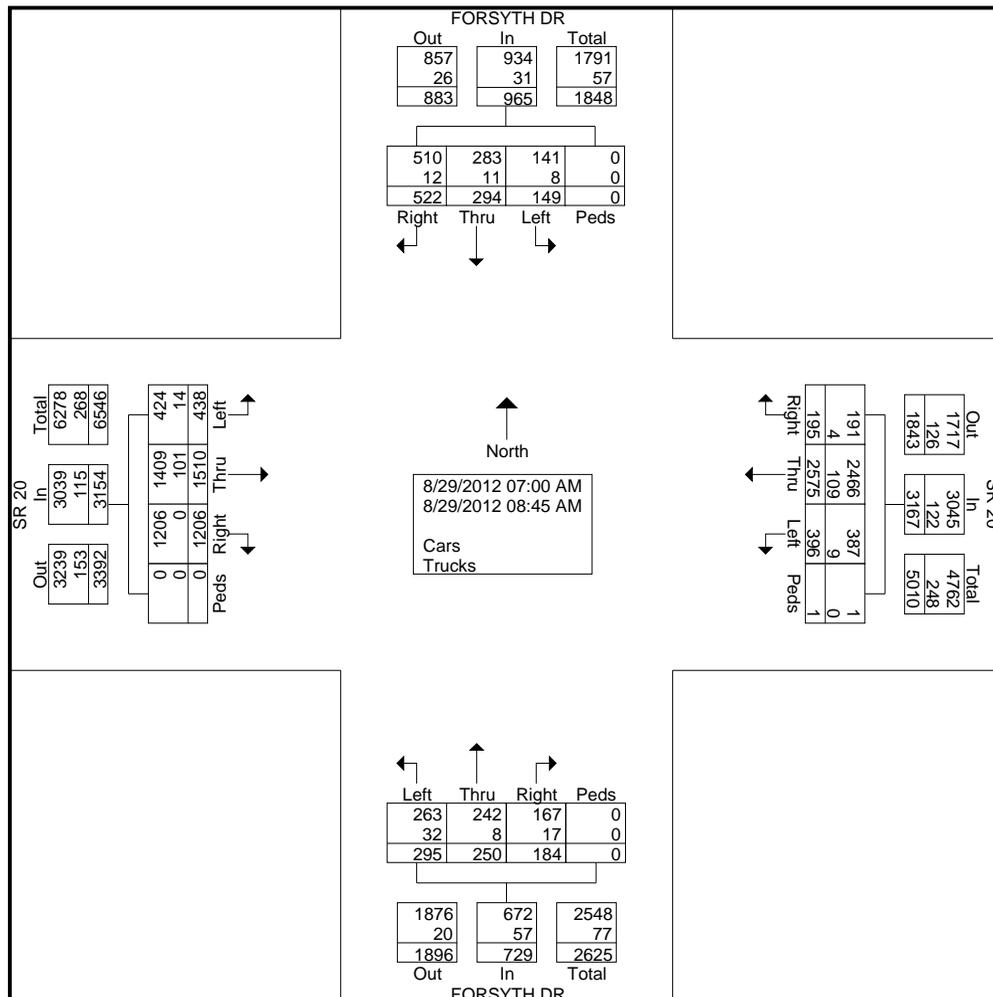
Site Code : 00000000

Start Date : 8/29/2012

Page No : 1

Groups Printed- Cars - Trucks

Start Time	FORSYTH DR Southbound					SR 20 Westbound					FORSYTH DR Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	18	29	49	0	96	49	281	11	0	341	26	12	15	0	53	33	153	128	0	314	804
07:15 AM	15	25	58	0	98	56	325	22	0	403	47	16	24	0	87	42	176	141	0	359	947
07:30 AM	16	34	52	0	102	50	344	20	0	414	31	23	25	0	79	42	178	140	0	360	955
07:45 AM	14	43	68	0	125	67	303	32	0	402	25	31	31	0	87	60	226	202	0	488	1102
Total	63	131	227	0	421	222	1253	85	0	1560	129	82	95	0	306	177	733	611	0	1521	3808
08:00 AM	17	48	61	0	126	43	375	22	0	440	30	44	26	0	100	61	184	166	0	411	1077
08:15 AM	17	31	76	0	124	40	329	28	0	397	44	37	22	0	103	57	218	147	0	422	1046
08:30 AM	35	46	89	0	170	50	331	33	1	415	39	42	22	0	103	66	198	133	0	397	1085
08:45 AM	17	38	69	0	124	41	287	27	0	355	53	45	19	0	117	77	177	149	0	403	999
Total	86	163	295	0	544	174	1322	110	1	1607	166	168	89	0	423	261	777	595	0	1633	4207
Grand Total	149	294	522	0	965	396	2575	195	1	3167	295	250	184	0	729	438	1510	1206	0	3154	8015
Apprch %	15.4	30.5	54.1	0		12.5	81.3	6.2	0		40.5	34.3	25.2	0		13.9	47.9	38.2	0		
Total %	1.9	3.7	6.5	0	12	4.9	32.1	2.4	0	39.5	3.7	3.1	2.3	0	9.1	5.5	18.8	15	0	39.4	
Cars	141	283	510	0	934	387	2466	191	1	3045	263	242	167	0	672	424	1409	1206	0	3039	7690
% Cars	94.6	96.3	97.7	0	96.8	97.7	95.8	97.9	100	96.1	89.2	96.8	90.8	0	92.2	96.8	93.3	100	0	96.4	95.9
Trucks	8	11	12	0	31	9	109	4	0	122	32	8	17	0	57	14	101	0	0	115	325
% Trucks	5.4	3.7	2.3	0	3.2	2.3	4.2	2.1	0	3.9	10.8	3.2	9.2	0	7.8	3.2	6.7	0	0	3.6	4.1

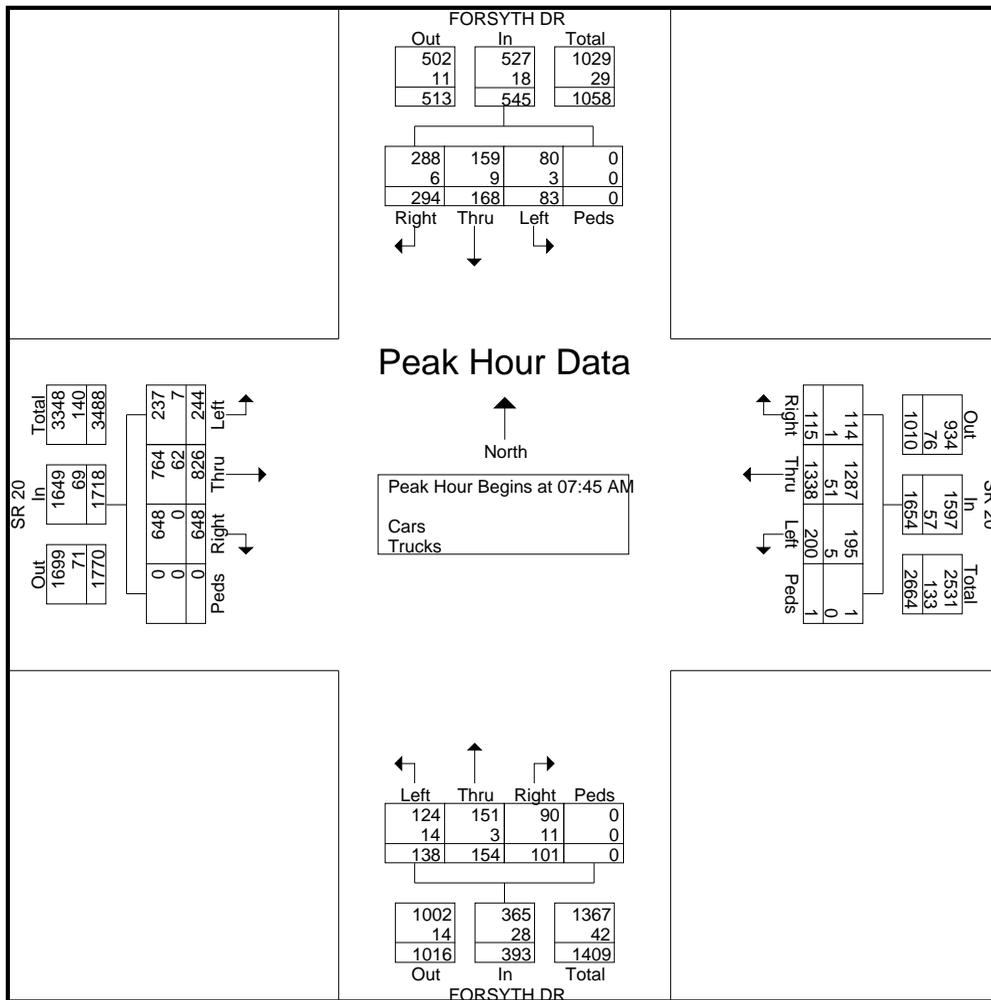


All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #2 ForsythDr@SR20AM
Site Code : 00000000
Start Date : 8/29/2012
Page No : 2

Start Time	FORSYTH DR Southbound					SR 20 Westbound					FORSYTH DR Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	14	43	68	0	125	67	303	32	0	402	25	31	31	0	87	60	226	202	0	488	1102
08:00 AM	17	48	61	0	126	43	375	22	0	440	30	44	26	0	100	61	184	166	0	411	1077
08:15 AM	17	31	76	0	124	40	329	28	0	397	44	37	22	0	103	57	218	147	0	422	1046
08:30 AM	35	46	89	0	170	50	331	33	1	415	39	42	22	0	103	66	198	133	0	397	1085
Total Volume	83	168	294	0	545	200	1338	115	1	1654	138	154	101	0	393	244	826	648	0	1718	4310
% App. Total	15.2	30.8	53.9	0		12.1	80.9	7	0.1		35.1	39.2	25.7	0		14.2	48.1	37.7	0		
PHF	.593	.875	.826	.000	.801	.746	.892	.871	.250	.940	.784	.875	.815	.000	.954	.924	.914	.802	.000	.880	.978
Cars	80	159	288	0	527	195	1287														
% Cars	96.4	94.6	98.0	0	96.7	97.5	96.2	99.1	100	96.6	89.9	98.1	89.1	0	92.9	97.1	92.5	100	0	96.0	96.0
Trucks	3	9	6	0	18	5	51	1	0	57	14	3	11	0	28	7	62	0	0	69	172
% Trucks	3.6	5.4	2.0	0	3.3	2.5	3.8	0.9	0	3.4	10.1	1.9	10.9	0	7.1	2.9	7.5	0	0	4.0	4.0



All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #2 ForsythDr@SR20PM

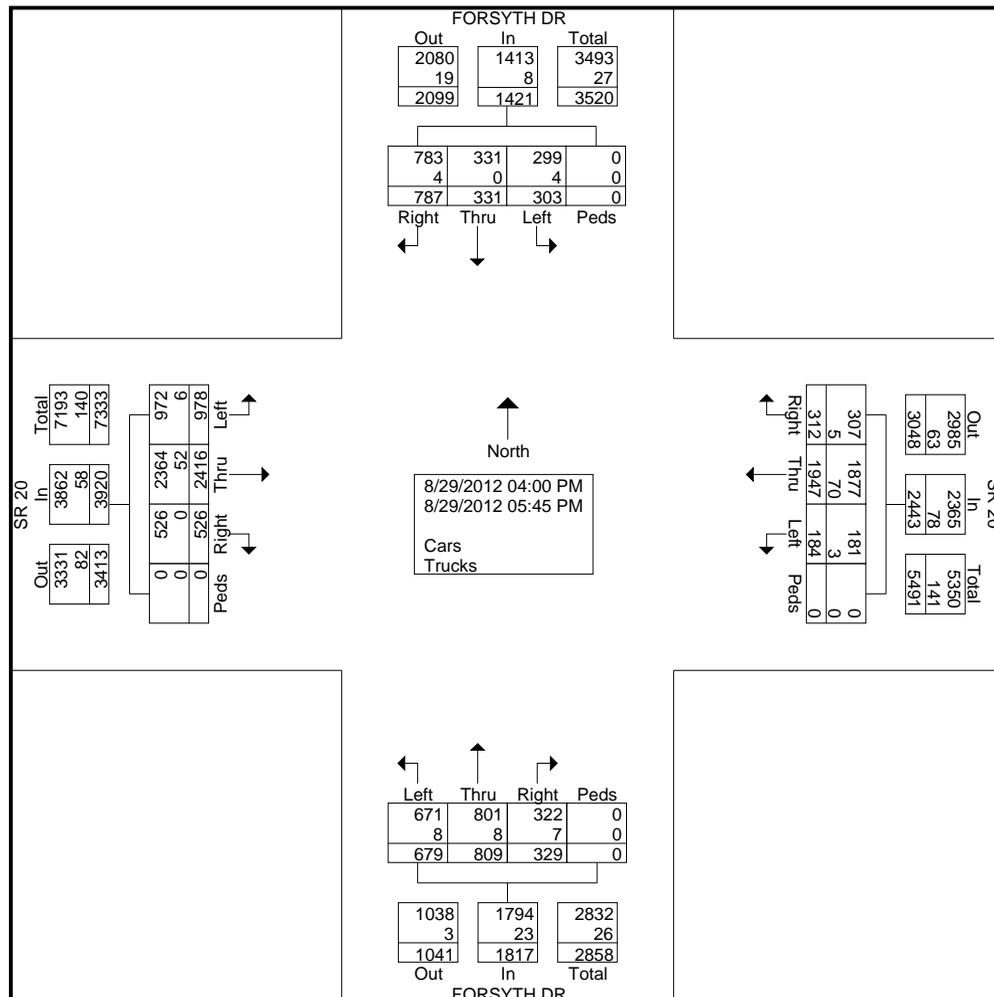
Site Code : 00000000

Start Date : 8/29/2012

Page No : 1

Groups Printed- Cars - Trucks

Start Time	FORSYTH DR Southbound					SR 20 Westbound					FORSYTH DR Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	50	44	91	0	185	16	237	30	0	283	87	85	43	0	215	131	320	78	0	529	1212
04:15 PM	31	41	104	0	176	18	217	37	0	272	76	91	51	0	218	110	323	78	0	511	1177
04:30 PM	37	33	97	0	167	22	239	36	0	297	93	100	44	0	237	110	316	78	0	504	1205
04:45 PM	32	44	116	0	192	27	275	44	0	346	87	109	41	0	237	133	270	54	0	457	1232
Total	150	162	408	0	720	83	968	147	0	1198	343	385	179	0	907	484	1229	288	0	2001	4826
05:00 PM	31	39	94	0	164	33	247	42	0	322	88	120	36	0	244	123	311	60	0	494	1224
05:15 PM	37	44	102	0	183	22	232	38	0	292	89	122	49	0	260	127	285	54	0	466	1201
05:30 PM	40	49	87	0	176	21	241	41	0	303	81	93	37	0	211	119	315	60	0	494	1184
05:45 PM	45	37	96	0	178	25	259	44	0	328	78	89	28	0	195	125	276	64	0	465	1166
Total	153	169	379	0	701	101	979	165	0	1245	336	424	150	0	910	494	1187	238	0	1919	4775
Grand Total	303	331	787	0	1421	184	1947	312	0	2443	679	809	329	0	1817	978	2416	526	0	3920	9601
Apprch %	21.3	23.3	55.4	0		7.5	79.7	12.8	0		37.4	44.5	18.1	0		24.9	61.6	13.4	0		
Total %	3.2	3.4	8.2	0	14.8	1.9	20.3	3.2	0	25.4	7.1	8.4	3.4	0	18.9	10.2	25.2	5.5	0	40.8	
Cars	299	331	783	0	1413	181	1877	307	0	2365	671	801	322	0	1794	972	2364	526	0	3862	9434
% Cars	98.7	100	99.5	0	99.4	98.4	96.4	98.4	0	96.8	98.8	99	97.9	0	98.7	99.4	97.8	100	0	98.5	98.3
Trucks	4	0	4	0	8	3	70	5	0	78	8	8	7	0	23	6	52	0	0	58	167
% Trucks	1.3	0	0.5	0	0.6	1.6	3.6	1.6	0	3.2	1.2	1	2.1	0	1.3	0.6	2.2	0	0	1.5	1.7

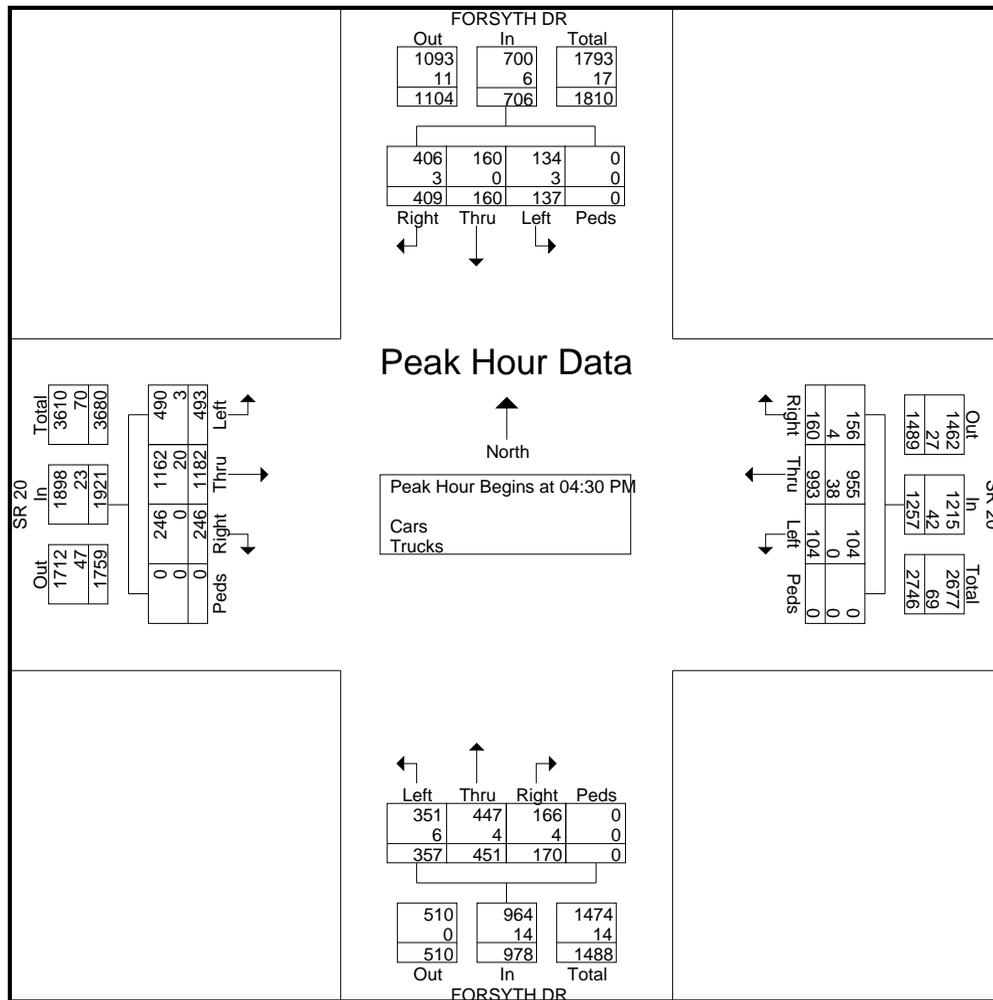


All Traffic Data Services, Inc

1336 Farmer Road
Conyers, Ga 30012
404-374-1283

File Name : #2 ForsythDr@SR20PM
Site Code : 00000000
Start Date : 8/29/2012
Page No : 2

Start Time	FORSYTH DR Southbound					SR 20 Westbound					FORSYTH DR Northbound					SR 20 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	37	33	97	0	167	22	239	36	0	297	93	100	44	0	237	110	316	78	0	504	1205
04:45 PM	32	44	116	0	192	27	275	44	0	346	87	109	41	0	237	133	270	54	0	457	1232
05:00 PM	31	39	94	0	164	33	247	42	0	322	88	120	36	0	244	123	311	60	0	494	1224
05:15 PM	37	44	102	0	183	22	232	38	0	292	89	122	49	0	260	127	285	54	0	466	1201
Total Volume	137	160	409	0	706	104	993	160	0	1257	357	451	170	0	978	493	1182	246	0	1921	4862
% App. Total	19.4	22.7	57.9	0		8.3	79	12.7	0		36.5	46.1	17.4	0		25.7	61.5	12.8	0		
PHF	.926	.909	.881	.000	.919	.788	.903	.909	.000	.908	.960	.924	.867	.000	.940	.927	.935	.788	.000	.953	.987
Cars	134	160	406	0	700	104	955	156	0	1215	351	447	166	0	964	490	1162				
% Cars	97.8	100	99.3	0	99.2	100	96.2	97.5	0	96.7	98.3	99.1	97.6	0	98.6	99.4	98.3	100	0	98.8	98.3
Trucks	3	0	3	0	6	0	38	4	0	42	6	4	4	0	14	3	20	0	0	23	85
% Trucks	2.2	0	0.7	0	0.8	0	3.8	2.5	0	3.3	1.7	0.9	2.4	0	1.4	0.6	1.7	0	0	1.2	1.7



DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

MEETING SUMMARY

DATE: 11/26/2013
0012831, Forsyth County
SR 20 from SR 400 NB to Ronald Reagan Blvd.

LOCATION: GDOT GO -27th Floor Conference Room

ATTENDEES: Davida White, GDOT-Project Manager
Justin Lott, GDOT-District Design Engineer
Colin Houppermans, GDOT-D1 Design
Thomas Fambro, GDOT-Roadway Design
Eric Duff, GDOT-Environmental Services
Joe Carpenter, GDOT- Director of Engineering Service
Katrina Anderson, GDOT-ROW Acq. Manager
Paul DeNard, GDOT-State Traffic Ops Manager
Chester Thomas, GDOT-Traffic Ops
Dave Peters, GDOT-Design Policy

COPIES: All Attendees

SUBJECT: PTIP Meeting

INTRODUCTION:

Davida opened the meeting with a brief description of the intersection improvement project located on SR 20 from SR 400 NB to Ronald Reagan Blvd. Then she read through the justification statement. Paul provided additional design information.

DISCUSSION:

- Alternate 1 was selected as the design for the intersection.
 - *Alternate 1 is to provide a left-in/right-out median opening to Lowe's Driveway on SR 20/Buford Rd. This concept would also consider converting one of the left-turn lanes from SR 20/Buford Rd to GA 400 NB ramps to a through lane. Trips were generated for the existing development in the NW and NE quadrants of Lowe's Driveway based on land use type using ITE Trip Generation Manual (9th Edition) and*

manually distributed to populate the left-turning traffic into Lowe's Driveway.

- The two projects that are located near the project include:
 - 0010291 an ITS located on SR 400 from CR 458/McFarland Pkwy to SR 20
 - 132630- an interchange reconstruction project located on SR 400 at SR 20

PROJECT SCOPE:

- Estimated time to complete the project is 12 months
- District 1 design will not be completing a full plan set for this project
- Driveway easements are needed for at least one or two parcels at the Lowe's driveway. However, ROW plans are not required.
- Survey will include boundary lines and control points. Also current survey will be incorporated if available.
- Design will have one field plan review (FFPR).
- New pavement design is not required for this project because left-turn lanes with traffic volumes less than 10,000 do not apply. See policy
- Minor lane closures may be required.
- There will be one utility submission. It shall include proposed and existing locations.
- The project requires a PCE environmental document.
- All services for the project will be completed by GDOT In-House resources.

POTENTIAL RISK:

- Endangered plants may cause risk to project schedule.

SCHEDULE:

- PE funds were approved on 11/4/13.
- Initial Concept Meeting can be removed
- Plant bloom seasons will be incorporated in schedule
 - T&E bloom between July and November
 - Georgia Ester grows between September and November
- Durations for activities 100000 and 101000 can be reduced.
- The preliminary field plan review can be eliminated.

ACTION ITEMS:

- Schedule comments will be uploaded on the PTIP site by 11/27/13.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

MEETING SUMMARY

DATE: 8/11/2014
0012831, Forsyth County
SR 20 from SR 400 NB to Ronald Reagan Blvd.

LOCATION: GDOT D1- Large Conference Room

ATTENDEES: Davida White, GDOT-Project Manager
Greg Farr, SEMC-V.P. of Engineering
Bobby Dollar, GDOT- NEPA
Daniel Rock, GDOT-D1 Engineer
Colin Houppermans, GDOT-D1 Design
Kevin York, GDOT- D1 ROW
Parker Niebauer, GDOT- D1 Design
Shane Giles, GDOT-D1 Traffic Operations
Dave Woods, GDOT- D1A1 Constriction
Doug Preece, GDOT-D1 Utilities
Barry Lucas, Forsyth County Water & Sewer
Vickie Simmons, GDOT- Utilities
Joel Cantoran, GDOT- Engineering Services
Robby Oliver, GDOT-Utilities
Matt Needham, GDOT- D1A1 Engineer
Bessie Reina, GDOT- Asst. Planner
Brent Cook, GDOT- Asst. District Construction Engineer
Lorie Short, AT&T Engineer
Jason Dykes, GDOT- Asst. D1 Construction Engineer
John Gray, Georgia Power Engineer
Steve Bennett, COC- Asst. City Admin
Jonathan Heard, COC- Dir. Of Utilities
Scott Morgan, COC- Dir. Of Planning and Zoning
Gerald Blackburn, COC- City Admin
Neil Kantner, GDOT- D1 Utilities Engineer

GDOT- Georgia Department of Transportation
COC- City of Cumming
D1- District 1
A1- Area 1

COPIES: All Attendees

SUBJECT: Concept Team Meeting

INTRODUCTION:

Davidia opened the meeting with a brief description of the intersection improvement project located on SR 20 from SR 400 NB to Ronald Reagan Blvd. Colin provided additional design information.

DISCUSSION:

- The question was asked about how we plan to cut through the median. The response was by way of surface activity.
- Design stated that they will be installing a new inlet for drainage that shall tie into the existing structure at the median.
- Design will determine if a driveway easement at Lowes is required. If the easement is needed, it will require cooperation with Lowes and all other businesses that utilize the driveway.

Utility Comments

- AT&T, City of Cumming, Georgia Power, Forsyth County Water, and Sawnee EMC have utilities on or near the project. No conflicts are anticipated.
- Georgia Power is located near the Lowes driveway and further south on SR 20.
- Sawnee EMC currently shares joint use poles with Georgia Power.
- The City of Cumming water may have a line under the driveway that is roughly 4 feet deep.

City of Cumming Comments

- A comment was made that the driveway is currently outside of the City limits and would be turned over to the County if acquired.

Environmental Comments

- There are no environmental impacts to the project. However, it was recommended that we have some sort of public outreach to inform the businesses that will be impacted by the project. No formal meeting is required.

ACTION ITEMS:

- Neil will provide a no cost utilities estimate.
- Design will determine if a driveway easement at Lowes is required.
- PM or Design Engineer will ask Paul DeNard what type of signage should be used to notify drivers about the left turning lane and to prevent trucks from using the lane.